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SUCCESS AND USEFULNESS IN MEDICINE*

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Mr. President, Ladies and Gentlemen:

My first duty is to express my thanks to you for your action in electing me to the presidency. I am all the more grateful because it is well known that that proceeding on your part was a voluntary and deliberate expression of your endorsement of my attitude touching the integral rights of the medical profession of this state.

My thesis this evening is that ethical preparation and technical preparation, supported and beautified by humanism, are productive of success and usefulness in medicine. It is important to understand this proposition, and to that end we shall seek at once a definition of success and usefulness.

In general terms, what is meant by success? The answer to that question may be stated specifically, because it means, obviously, the performance of the functions of a particular profession or calling. In the commercial world the making of money is success, because that is the function of the commercial world. It may be a very useful function, directly or indirectly, but all things which grow out of such a world are based upon the primary function of making money. Usefulness may grow out of it, but if it does it is distinctly incidental and secondary.

What is the function of medicine? Briefly, it is to render every possible service for the preservation of health and for the prevention and cure of diseases and abnormalities of human beings. Success in medicine comes, then, to the doctor who renders such service; it comes, likewise, to any organization or group which renders such service. All things which grow out of the world of medicine are based upon this primary and basic function. Financial success may grow out of it, but if it does it is incidental and secondary.

It is hardly necessary for me to undertake to define usefulness or to offer an argument to prove that the functions of the medical profession are useful. No sane person would say that the preservation of health is not useful. Only the ignorant have doubt about the usefulness of the prevention of disease. The brutal only would dare assert that efforts to cure the diseases and abnormalities of human beings are not useful. So we see that success and usefulness mean the same thing in medicine. In order to be successful the doctor must be useful; in order to be useful he must be successful.

These principles are embodied in the fundamental laws of this organization, for it is there declared, in effect, that its prime function is to advance the interests of medicine. We have learned already what those interests are, and we know already the results that follow the performance of the function.

As I have indicated in the statement of my thesis, success and usefulness in medicine depend very largely upon three important principles. The first of these principles is ethical preparation. The second is technical preparation. The third principle concerns the humanistic aspects and relations of medicine.

Ethics is derived from a word which means character. A modern definition of ethics is, "The science of human duty; the basic principles of right action."

If ethics is the science of human duty; if ethics indicates the principles of right action; if ethics is the equivalent of character, then it must comprehend honesty and truth and integrity—in sum, it is probity. Now, if this is the proper conception of ethics, the word should not be employed where the importance of the science of human duty is not recognized,

*President's Address, Forty-second Annual Session Oklahoma State Medical Association, Tulsa, May 21, 22, 23.

or where there is not a reasonable understanding and application of the principles of right action.

The medical profession has this conception of ethics. It is a basic requirement of the code which has governed medicine for many centuries. This association has the same conception of ethics, and the proof is that it subscribes to the principles of the code. In this immortal document the duty of the doctor to his patient is indicated, and anyone who studies it will find there the duty of the doctor to his fellow doctor, and the duty of the medical profession to the public. The basic principles of human duty and right action are in that code, but, added to them, are particular, definite and sacred duties which are demanded at the hands of everyone who becomes a member of this association. No member who keeps his obligations and performs the duties which the code requires of him will wilfully neglect his patient; nor will he neglect his duty to his fellow doctor. If he does either of these things he is without the pail of honorable membership; he is without the pail because he does not practice the principles of right action, not to mention the particular principles of this organization. From the standpoint of our code, such an individual, though he be rich in money and lands and goods, is neither successful nor useful.

One of the functions of this association is to promote fellowship and fraternal intercourse amongst its members. That is an ethical function. Through its performance there is created an *esprit de corps* which makes the legitimate burdens and problems and perplexities of any honorable member of the medical profession the burdens and problems and perplexities of every honorable member of the profession. It envisages this association as a brotherhood—a brotherhood which zealously guards the truth—a brotherhood driving relentlessly and with solidarity toward the accomplishment of the purposes of the medical profession.

You have heard the gist of the requirements of the profession to which we belong. In connection therewith I must place great emphasis upon the ethical duties of our members to each other. This is of importance in every case, but it is of particular importance in the attitude of established practitioners toward younger members of the profession who are trying to establish themselves. It is a situation where unjust criticism, thoughtless or premeditated, might do immeasurable harm. It is a situation where constructive criticism, friendly advice and generous encouragement would do immeasurable good. Hear me, men and women who bear the same burdens and who have the same poignant professional desires; hear me, soldiers in the same army, defending the human race against the ghastly enemies, disease and death; hear me, fellow members of the medical profession: We ought to think many times, and soberly, before we speak ill of each other, and before we even contemplate the performance of an act that might be detrimental or embarrassing to any honorable member of our profession.

If any among you are disposed to charge me with idle or flamboyant statements, I believe that if you look about you and see conditions as they are you would acquit me of that charge. Look about you and you will see that the great mass of the doctors in this state are straight and correct. You will see them working hard in the effort to achieve ethical success and usefulness. But you will see another group—a very small group —some of its members wearing the livery of our organization—whose acts are in contravention to our duties and our ideals, because they substitute commercial success for ethical success—in truth, some of their practices would be condemned in the respectable commercial world.

It is my profound conviction that most of our difficulties, economic and otherwise, have their origin in this small and ruthless group, some of them within our own ranks, a group, the members of which have decided that, for selfish reasons, they will trample upon the principles of their profession; whose only interest in this or any other medical organization is membership through which they filch prestige that they do not deserve.

That preparation for the performance of the duties of any profession is necessary, is a statement that is so sound that the truth of it needs no proof. The necessary preparation may be simple in simple fields. In technical and complex fields the preparation must be technical and complex. Medicine is a technical and complex field. There is no profession which has to deal with more weighty, more vital or more important problems. Therefore, the

preparation for the practice of medicine ought to be as complete as possible.

In order to prepare for the forbidding and stupendous responsibilities of the doctor of medicine, certain standards of medical training have been set up. They are imperfect standards, just as all things human are imperfect, but they comprehend sound principles and reasonable procedures. These standards require technical preparation and training, based upon an ethical foundation. No substitute can take the place of such training. There is no short cut in medicine. There is but one road to travel. Some may travel more swiftly than others, but all must go the same way. The burdens may be heavy, but they must be borne. The duties may be distasteful, but they must be performed. This is the only way to success and usefulness.

The requirements of which I speak are partially enforced by the medical schools and examining boards. But after the student is granted a license to practice medicine he has complete freedom. His future success and usefulness are then in his own hands. If he continues to apply himself; if he develops the initiative and resourcefulness that come from good training and a studious life; if he has industry and tenacity of purpose; if he has proper ethical concepts, it logically follows that he will live a successful and useful professional life. It logically follows, because we have found that success and usefulness in medicine are based primarily upon ethical and technical preparation.

But one may ask, "Is material success in medicine achieved in the same way?" Even so, because he who performs the duties and functions of his profession is useful, and being useful his services will be demanded; and in exchange therefor he will receive compensation commensurate with the service rendered. He may not use the compensation wisely; he may squander it in questionable financial undertakings about which he knows little or nothing, but that does not alter the important and logical fact that his usefulness will be the determining factor in connection with the compensation that he will receive.

This conception of the practice of medicine is not only logical, but it is comforting. It is comforting in prosperous times; it is even more comforting in times of general financial stress and uncertainty.

To the properly prepared, straight-thinking and conscientious young doctor who has laudable ambitions, such a conception is particularly encouraging. Seeing the profound truth of it, he realizes that he, himself, can largely determine his professional destiny. What a doctor amounts to in medicine—what he amounts to in the world—do not depend upon legislation; nor upon practice *en masse*, with a medical tycoon here and there; nor upon visionary insurance schemes where a large part of the money collected finds its way into the hands of the promoters. What he knows, how he lives, what he is able to do, what he does—these are the qualifications upon which his career must be built.

The third principle of which I wish to speak concerns the humanistic aspects of medicine. Humanism signifies the cultural side of eduction, but, unfortunately, it has but a small place in the average premedical curriculum, almost none at all in the curriculum of the average modern medical school, and I am afraid that it does not have a very large place in the average modern educational institution, regardless of its character. During the last twenty-five or thirty years there has been a drift from polite learning toward an education for efficiency alone. This drift has continued until both academic and professional education are closely bound to material utilitarianism. Facts have been accumulated, but too often their employment is without the saving guidance of a sound philosophy, because we are far away from the ideal of classical training. People are educated, but not broadly educated.

One of the embarrassing results of this system is that it is now more difficult for educated people to meet upon common ground. But that is a minor difficulty. The chief difficulty lies in the failure to recognize the fundamental importance of polite learning which tends to the production of intellectual repleteness and intellectual stability. It is important because it promotes deeper thinking and clearer reasoning. It furnishes a perspective that can be furnished in no other way, and that emphasizes its importance. Finally, it is of preeminent importance because it leads to wisdom.

My confreres, with these principles—the principles of ethics and technical prep-

aration, strengthened and adorned by the principles of humanism, beneath him and about him, the man of medicine moves forward and upward in the work of his profession. He moves with self-respect for he is conscious of his own integrity. He moves with self-denial, for he is master of himself. He moves with confidence, for he knows that "to him that hath shall be given."

PNEUMOCOCCIC MENINGITIS. REPORT OF CASE WITH RECOVERY FOLLOWING CISTERNAL DRAINAGE

Caroline C. Bedell, Baltimore (Journal A. M. A., March 17, 1934), reports a case of group IV pneumococcic meningitis in which complete recovery followed the early use of continuous cisternal drainage, using the method described by Dandy in the treatment of staphylococcic and streptococcic meningitis. The author states that it is probable that only early cases of pneumococcic meningitis would respond favorably to such a course of treatment, since it depends on free flow of cerebrospinal fluid from the ventriculosubarachnoid system. It is significant that 200 cc. of cerebrospinal fluid escaped from the cisternal tube daily. The maintenance of approximately normal intracranial pressure, throughout the course of the disease is desirable from the standpoint of minimizing intracranial lesions and for the general welfare of the patient. The author made repeated determinations of the typing, the bile solubility and the autolysis in salt solution of the organism isolated. There seemed to be no question that she was dealing with a pure culture of pneumococcus group IV. Pneumococci, while plentiful, were never found in overwhelming numbers in the spinal fluid. This suggests that early establishment of drainage and irrigation was effective in combating their rapid multiplication. The rapid progression of symptoms and abrupt rise of temperature to 106 F. during the hours of meningeal invasion ceased spontaneously immediately after the operation. Dandy suggests that meningitis of otogenous origin is probably more grave than that following trauma or accidental inoculation of the cerebrospinal fluid. In the author's case there was a preceding sinusitis, which was never severe. The antrum wall was traumatized during irrigation. The sinusitis subsided spontaneously during hospitalization. The patient actually suffered from two attacks of acute meningitis occurring in quick succession. The cisternal drainage tube had been in place six days when the superinfection occurred; gram-positive cocci were still present in the smear of the spinal fluid sediment, chiefly intracellularly. Culture of the spinal fluid over a period of nine days yielded bacillus proteus; thereafter the cultures were sterile. The bacillus proteus infection produced a greater polymorphonuclear response in both blood and spinal fluid than had the pneumococcic infection alone; whether this outpouring of leukocytes could have been helpful in clearing up the residual pneumococcic infection is an interesting question. The exact mode of entry of the secondary invader could not be determined, but the occurrence is hardly surprising, since the catheter had been in place six days and had been subject to repeated manipulations, while the dressings about the open cervical wound had not been changed for fear of disturbing the functional efficiency of the drainage tube.

THE DOCTOR IN POLITICS*

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President-Elect
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The responsibility of every American citizen is self-government. After this primary requisite is accomplished their influence should be extended into the government of city, county and state. The time has come when the level-headed educated men and women should direct the way, and lead those who are less advised and more easily influenced, rather than turn them loose to the prey of communism, anarchy, bolshevism and various other organizations of red ruin.

I am endeavoring to arouse the medical profession of Oklahoma from their apathy and make them realize that there is just as much sickness in our state government as there is in the people. It is high time we accept our responsibility, make a diagnosis and advise the treatment necessary. I ask you, what other profession is there among mankind that carries the physical and social welfare of the nation in the palm of its hand? Our foresight, scientific study and ingenuity not only cures the ills of the present generation, but attempts to assure the welfare of those to come. I challenge the members of the medical profession to take more interest in all forms of government. Our responsibility does not cease until all manner of ills have been remedied.

The American Medical Association has constantly regulated and increased the requirements of the medical profession with the intention of insuring competent and qualified practitioners of medicine and surgery. At the present time our profession stands as a pier among the professions of the world. All the good thus accomplished has been offset by the legalization and entrenchment of one cult after another. These inferior practitioners have, to a certain extent, taken the place of the incompetent medical doctor. They have fooled the unsuspecting and relief-seeking public. The physicians and surgeons look upon themselves too lightly. They forget to sell themselves to their patients, while the inferior practitioners, with nothing to offer, capitalize on the ignorance of the public and advance their

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personalities for unearned financial gain. The medical profession is the right arm of salvation to the entire human race, whether they be sick or well, and it behooves this body of intelligent men to arouse themselves and accept this responsibility. It is time that we should unite, cease to be competitors one with another, cease to find fault with the work of our brother, cease to be used as a tool by some questionable lawyer to testify against a fellow in our profession. It is high time that we should demand more respect, make our patients our servants instead of being their servants, yet serving them with all the tenderness, long suffering and compassion which was demonstrated by the great healer, Christ himself.

There is certain legislation which the thinking public is at this time demanding and which the medical profession should advance.

First: A law for the protection of the masses against unqualified healing cults or isms, and the like. Call this law a basic science, or an essential curative act, or what you may. The government has laws regulating the formation of banks, building and loan companies, corporations and various other business enterprises. There are laws regulating and restricting gambling, horse races, selling of alcoholic beverages, using of habit-forming drugs, and even game chicken fighting. For the protection of Oklahoma's population there should be a common standard for all professed manner of healers, whether they are scientists, osteopaths, chiropractors, faith healers, or physicians and surgeons. It certainly is essential that any type of healer know the fundamental principles of the human body.

Second: The doctor has been called upon to sacrifice more time, knowledge and energy during the last two years than any other profession. Surely the laborer is worthy of his hire. Before the surgical and medical burden of the poor can be equally carried, some county or state taxation must be instituted. The revenue derived therefrom to be used as a compensation for those administering to and providing for the needy.

There was introduced in the fourteenth legislature Senate Bill No. 394: "An act authorizing the county commissioners of each county in the state to make a special levy for the purpose of taking care of the charity in each county, providing the method of expenditure and designating the kind of people to receive aid; providing that any excess funds remaining in the special fund as authorized should be held as an emergency fund, the same to accumulate for a period of five (5) years; designating how the emergency fund could be used, and if not used should revert to the general fund of the county; providing for the appointment of a county physician-surgeon, county health nurse, a method of creating a county health board; fixing the salaries thereof, designating the tenure of office; providing for expenses thereof, describing duties; prohibiting the operation and forming of charitable organizations without the consent and approval of the county health board and the governor." It was impossible to obtain sufficient cooperation in the house of representatives to get this, or any similar bill, passed. I was not well enough acquainted with the medical profession throughout the state to secure their assistance.

Third: The new state insurance law should be amended with provision made for the compensation of the physician. The state industrial commission should have as its member a competent physician and surgeon to aid in judging the extent of a client's physical disability.

Fourth: Suitable funds should be provided for the proper maintenance of the public health department and the various health institutions in the state.

I have left to the last the most important problem that confronts us, and that is the creation of a state medical practice act, or a law similar to that which now regulates the attorneys-at-law. (This will be found in Chapter 22, Oklahoma Statute, 1931.) It is commonly known as the State Bar Act. Such a law adapted to our profession would make the Oklahoma State Medical Association and the Oklahoma State Board of Medical Examiners the empirical dictators and regulators of all medical men attempting to practice medicine in the State of Oklahoma; giving them power to remove those of our profession who have forgotten its high calling and the oath of Hippocrates.

It is important that we purge our own profession of those who would not yield to a law agreed upon by a majority. Such a law, associated with one regulating the requirements of other cults and isms,

would be advantageous to the entire population.

Such proposed laws should be thoughtfully considered and created with considerable caution, probably using as a pattern similar laws of other states which have withstood the legal bombardment of all opponents.

After suitable senate and house bills have been drawn and introduced, it is important that the entire vote of the legislature, or that portion of it which is necessary to place them on the statute books of Oklahoma, be secured. It is important that each candidate who is running for a member of the state legislature be approached upon this subject. Those who are not willing to lend their vote for the advancement of such issues do not have the welfare of the people at heart and are not qualified for the office. The medical profession in the district should be notified, no matter if it involves our personal friend or if it is necessary for us to go beyond the bounds of a political party; we should lend our aid only to those who are favorable to such program. Before the legislature convenes, or such bills are advanced, it is important that we know our strength so that they can be passed without any organized or open opposition.

Let us not forget that it is important to elect a governor who is friendly to such legislation and will enforce the law.

I have not attempted to outline a perfect medical practice act, nor a basic science law, and most assuredly I am not advancing any individual as a member of the state legislature or as governor of the State of Oklahoma.

The members of our profession enjoy the confidence of the majority of the people with whom they are associated. We have an organization that goes into every county and every community. If our entire strength is pooled together for any candidate or political issue and our influence is exerted upon our friends we will be the greatest organized political factor in the State of Oklahoma.

I am anxious that this assembly now in session empower a committee to gain the information I have outlined, asking them to give us an unbiased political opinion of all state candidates and vote for and support those whom they recommend. Allow me to advance this idea, that such political setup extend into each county of the state.

In closing, I ask that the doctors present forget personal differences and professional timidity, reach out and grasp the handle of the oar and aid in pulling the ship of state into a harbor of tranquility that will protect the unsuspecting public and elevate our profession and the profession of all healing arts onto a higher plain.

ROENTGEN DEMONSTRATION OF CALCIFIED CORONARY ARTERIES IN LIVING SUBJECTS

Paul H. Wosika and Merrill C. Sosman, Boston (Journal A. M. A., Feb. 24, 1934), emphasize the fact that it should be remembered that not every small fleck of calcium in the coronary arteries can be visualized roentgenographically. A fairly large amount of calcium is required to interrupt enough rays to cast a shadow that can be recognized. Judging, however, from the numerous instances of massive calcification of the coronary arteries noted at the necropsy table, the roentgen diagnosis during life should be a common one. It is well to emphasize again that these small calcifications in the heart shadow are seen only when they are searched for. The observer, when his eyes are properly accommodated, should look through the cardiac shadow on fluoroscopic examination rather than simply at the movements of the heart borders. The patient should be rotated in all directions. Closing one's eyes for a few moments often rests them and brings out the dark shadows more clearly. That this intracardiac calcification is seen only when looked for is well exemplified by one of the authors' cases. This patient had been examined fluoroscopically on three occasions and only two months had elapsed between the discovery of the calcified vessels and the previous examination. The amount of calcium present could not possibly have developed in those two months, regardless of the increased heart size. Fluoroscopically, as one would expect, the calcium deposit is seen in the coronary sulcus. This is high on the left border of the heart and is seen best in the right anterior oblique position. The shadow cast is quite close to the heart border, apparently just under the pericardium. There is a slight movement during systole which is similar to that of the heart edge directly over the deposit. The shadows are to be differentiated from calcification in the valves by their location. Valvular calcifications are usually found by locating the auriculoventricular groove on the left border and searching through the heart shadow downward, inward and medially at an angle of 45 degrees. The movement of the valvular calcifications is also characteristic in that they move toward the apex with systole and occasionally intrinsic movements of the valves may be seen as well. This imparts the dancing motion that has been described previously. The appearance of the calcified arteries on films also is characteristic. The shadows appear linear and segremental and are curved corresponding to the course of the artery. The linear shadows also appear double on the speed films and parallel in places as if one were seeing the walls of the artery. In the authors' three cases the arrangement of calcium in no way resembles the structureless mass of calcium seen in the valves. Other areas to be differentiated from the calcified coronary arteries are (1) pericardial calcification; (2) calcified costal cartilages; (3) bronchi behind the heart, and (4) calcified lymph nodes or nodules.

THE RELATIONSHIP OF THE UROLOGIST TO THE GENERAL, PRACTITIONER*

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The progress of medicine has been so great during the past quarter century that it has been impossible for one man to read all of the literature, and keep up with the advances in all branches. A division of labor has thus occurred in the medical field, resulting in specialization. Urology is one of the youngest members of this stately hall of medical specialties, only approximately twenty-five years old, but during this time it has grown by leaps and bounds. The practice of this branch of medicine is intimately associated with general medicine, and a good background in general medicine is absolutely essential. Medicine of today owes much to urology. McCarthy has fittingly said, "the tremendous lowering of mortality rate in prostatectomy, the development and perfection of the cystoscope, the establishment on a sound basis of the value of blood chemistry and functional test, the roentgenographic study of the urogenital system, uretero-pyelography, cystography, seminal-vesiculography, and the delineation of these structures with mathematical precision, it is safe to say that urology, from the standpoint of diagnosis, is within 5 per cent of a correct science."

Thirty years ago the urologist of today was a venereologist, but the intervening time has seen a vast metamorphosis of this one man. Venereology has always been an outcast, a study of which has held very little inducement to the medical student compared with other major branches of medicine. Today it is called the bastard child of urology. Many eminent urologists today pay no attention to the venereal triad. Thirty years ago, Finger classically described the pathology of gonorrhea, and nothing has been added. Text-books of today only mention pathology in discussing this subject. Pelouze, in his monograph "Gonorrhea in the Male and Female," stresses the importance of thoroughly understanding the histology and pathology of these structures before attempting treatment. Many chronic gonorrheics are made so by meddlesome treatment. Rex Bolend, in an article before the Oklahoma State Medical Association some time ago, stressed the importance of gentleness in urology, and in venereology this can be doubly emphasized. You should know that once the gonococcus has become grafted upon the delicate mucous membrane of the urethra and, as the old saying is, "dug in," no drug we know is capable of eliminating the disease. Conversely many drugs are harmful. These tissues must be allowed to develop their own immunity and resistence to this infection, and if mauled and hammered they only become subject to deeper and more intensive involvement as well as extension. Then be careful not to use drugs which will tear down this immunity. It would be far better to use a normal saline solution for irrigation, or injection, if you think necessary, than one of silver nitrate, zinc sulphate or other irritating drugs. Remember, in acute gonorrhea it is not the drug used; about all the good that you can do with injection or irrigation is local cleanliness, and if you exceed this and apply astringents or irritating drugs, you are defeating the very necessary item of immunity of these tissues.

I have had patients tell me that their prostrates were massaged in acute gonorrhea. Others that catheters were passed for irrigations, and still others that "shots" were used in their arms, and this only. I wish to say that this kind of treatment is, and should be, subject to damages in court. Surely one dealing with acute gonorrhea had best leave the patient alone during the acute stage and allow him to build up his own cure in the immunity that his tissue cells will produce. I think that the best results in treating acute gonorrhea is: first, get the confidence and cooperation of the patient; advise him as to rest, water intake, abstinence from sexual excitement and alcoholics, rather than treatments; however, if given carefully and in weak enough concentration, they assist some. When the discharge has ceased and the urine is clear in both glasses, surety on your part of a cure, which means light prostatic massages, sounding of urethra and instillations of silver nitrate and then examination for gonococcus is vastly more important than meddlesome therapy in the acute stage. If more attention were paid to the so-called clean-up cases in male and female, better results would be secured in eliminating the disease.

*Chairman's address, Section on Urology, Dermatology and Syphilology, Annual Meeting Oklahoma State Medical Association, Tulsa, May 21, 22, 23, 1934.

The study of the urologic tract does not lend itself to the well-tried methods of auscultation, palpation and percussion, mostly due to the location of these structures. Here we come more and more to visual methods. It may be said that there is no part of these structures which can not be studied with the eye directly, indirectly, or through a picture of their shadows.

Urologic phenomena, as pyuria and hematuria, cannot be accounted for by auscultation, palpation or percussion, still it is common to see these cases treated over long periods of time without any attempt to arrive at a conclusive diagnosis. One of the most flagrant examples of this is the therapy of so-called cystitis, a catchy word, meaning nothing practically, so far as describing the causative pathology. When the diagnosis of cystitis is made, the concurrent pathology should be added. You seldom, if ever, have a primary case of cystitis. The mucosa of the bladder will stand unlimited insults; it is one of the most resistant of the mucous membranes of the body to infection. It is only repeated insults, and repeated invasion of organisms from other points, that overwhelm this mucosa and results in its injury; then this structure becomes part and parcel to the disease. The bladder, we know, is the receptacle of the contents of both kidneys through the ureteral orifices; it is intimately associated with the male and female generative organs, and is in intimate contact with the posterior urethra. Consequently, infection in the bladder only means that you have this infection fed into the reservoir, and this infection will continue just as long as the original focus remains.

To successfully examine urine from a female, it should be per catheter, fresh, and into a clean receptacle. A voided specimen means nothing except through the chemical analysis, and even then may show albumen from the red cells picked up at the vaginal orifice.

Hematuria is only a danger signal, meaning somewhere in the urogenital system active pathology is present. It is a symptom, not a disease. It will not suffice to put this patient to bed, order a styptic, urinary antiseptic, and procrastinate with them about the treatment and its success. The best time to examine patients with hematuria is when they are bleeding. Then, if mechanical means are used, it can be determined which ureteral orifice is involved through a cystoscope, the bladder inspected for bleeding points, and urethral mucosa as well. It is simple to watch the urinary orifice and determine which one is discharging a bloody jet, but it is entirely different after the hemorrhage has ceased. Many times procedures that would be unnecessary, if examined while bleeding, have to be resorted to in locating the pathology after the hemorrhage has ceased. This hemorrhage may not return for many months, or years, and in this interval precious time is lost. The small benign pappiloma of the bladder has become malignant; the calculus, which perhaps could have been removed mechanically, has increased in size and necessitates surgical procedure; the unilateral tuberculosis may have become bi-lateral, thus jeopardizing this patient's life, or even, at best, the possible chance for recovery. In other words, what may have been a simple matter only becomes more complex with delay. Much responsibility rests on the physician who first sees the patient with hematuria; they, as a rule, can be easily induced to subject themselves to complete urological workout, if necessary, to arrive at a correct diagnosis. Naturally, I am granting that this hematuria is not a hemaglobinuria, which can be determined on first urinalysis; also that the patient has no other disease in which the hematuria is only a part. I mean purpura, malaria, acute nephritis, typhoid fever, etc.

It is an easy matter to catheterize a female, or to ask a male to void in two separate glasses. Make a chemical analysis of this, centrifuge a specimen, place a drop of the sediment on a slide, and with cover slip examine under medium power of the microscope. Make a gram stain of another specimen of sediment and study it under the microscope for disintegrated white blood cells and organisms. After you have done this you have exhausted the resources of most routine work with the urine. Add to this prostatic palpation, very gentle massage, collection of this secretion in a clean receptacle, placing a drop of this on a slide with cover slip and study under the medium power of microscope, and you have gone another step, which every physician should be able to do. If not, it is because you are either too lazy, too busy, or are not nearly conversant with the microscope. Each and every one of us were trained in school in the uses and abuses of the microscope, and still this important instrument is too

often allowed to become dusty and unused. Naturally, if you wish it, the commercial laboratory can do this, but it adds expense to the patient, who is supposed to get value received for his money. If this were done on every patient in any way presenting symptoms suggesting the urologic tract, how much more interest it would create, how much better results you could secure, and how much more satisfaction in knowing you are doing your duty towards the patient. If your patient is a male and gives the history of gonorrheal infection and the above does not reveal any information, pass small bougies down the urethra; if no resistance is felt, and a urethroscope is handy, examine his anterior urethra carefully under vision.

Pyuria is another common phenomenon. What was said under hematuria applies here, providing in the male you cannot find the cause in the anterior urethra, the posterior urethra and its accessory glands. The two-glass test is of importance here. If the first glass is cloudy and the second clear, then in all probability the pathology is in the urethra anterior to the bulbomembranous portion. If the second glass is cloudy also, the pathology is above the bulbo-membranous urethra, or in the kidneys, ureters, bladder, or posterior urethra. Familiarity with the cystoscope and cysto-urethroscope is very essential here in arriving at a diagnosis. Observation of the posterior urethra, bladder, and ureteral orifices can be made directly, the jets carefully watched from each orifice, ureteral catheters inserted into the pelves of the kidneys to locate and treat the existing pathology. In this way divided specimen can also be secured and examined.

One common source of disease in the female that is often overlooked is the urethra. More often than is supposed this canal is subjected to stricture formation, and all of the existing symptoms will clear up after dilation of this structure. Cystocele may cause a bladder retention, as may also spinal cord lesions and atonic bladders. Once the residual is begun, it most often increases, with strong inclinations to become infected, and then the patient has all the symptoms of cystitis in varying degrees. Should a physician doing this type of work get his ego inflated to too high a degree he will certainly get it punctured on some middle-aged female patient coming in for relief of dysuria, pain and frequency. You must remember that one and one-half inch of urethra, and the two most common causes of symptoms caused by this structure, caruncle and stricture. Both are easily treated, one with the cautery, the other with dilation, and both will net you a very grateful patient. Here I will mention a method which has served me in determining the residual in the female. Empty the bladder per catheter. Put in a certain amount of plain distilled or boiled water, and have her assume the position she can void best in, and void all she can, and the residual is that amount remaining in the bladder, or the difference in amount she passed and amount put in.

The relationship of urology to the different specialties occupies a special field, but some of the high points will be considered here. In diseases of children we must remember that children are subject to the same diseases of the urogenital tract as the adult, and that they are much more difficult to recognize, due to the fact that you do not have the cooperation of a mature mind in the delineation of symptoms. Frequency of urination, cloudy urine, undetermined fevers, etc., call for careful urinalysis, and if abnormal constituents are found the same procedures are indicated as in the adult. Urologists have become familiar with working with smaller instruments, smaller cystoscopes, smaller catheters, etc., and should be willing to exercise much patience and ingenuity in working out from a urological standpoint infants and children. The man doing pediatrics must keep constantly in mind the urologic tract, and be ready to recognize symptoms from these structures. Urology in childhood has become almost a specialty inside a specialty.

Campbell, in Journal of Urology for September, 1932, in writing on eneuresis, states that the diagnosis of eneuresis is usually made on the basis of a child wetting its bed or clothing, or perhaps suffering from marked frequency of urination with rare incontinence. He considered eneuresis as unintentional or involuntary nocturnal or diurnal urination in the absence of demonstrable pathology. In a series of 249 cases four years of age and older, investigated by himself, organic disease was found to exist in 60 per cent. Due to this large per cent of uropathies he disagrees with those who claim eneuresis to be due to purely functional psychic or emotional manifestations. He states that two and one-half years is the age at which a child should gain full control of

its bladder, but for urologic study he eliminated all those under four years of age. Most every urologic pathology was found in this series. He insists on a complete urologic study in those children after three months of palliative treatment who are over four years of age. In discovering the pathology present, further destruction of the urologic system can be prevented, the underlying disease perhaps cured and incidentally the eneuresis ceases. When complete urologic study fails to reveal any underlying pathology, then you can rest assured that normal vesical control will eventually be established.

The obstetrician can find a very handy ally in the urologist, and one he needs greatly at times. There are a few points I wish to state here dogmatically, and I claim no priority for their utterance. I believe that no pregnant woman has received even mediocre attention from the medical profession in this day until she has had a blood Wassermann test made. The excuse may be offered as to the price, still in Oklahoma this can be done by the State Department of Health and without one cent cost except postage. I believe it inexcusable. To my mind this is one of the greatest means we have of combating congenital syphilis. I believe that every pregnant woman who gives you a clear-cut history of luetic infection, should have some form of antiluetic treatment during the pregnancy, regardless of the Wassermann report. I believe every male child should be circumcised; in this way we do much towards preventing cancer of the penis. Wolbarst, of New York, has made the statement that he has never seen a cancer of the penis in the Hebrew race who practice this as a religious custom. We do much also, I believe, in preventing the venereal triad when circumcising all male babies; it is much easier for this boy and man to keep clean, and much less likelihood of contracting gonorrhea and syphilis. I believe that every genital lesion should have a dark field examination, unless you, personally, are sure that there is no chance for spirochetal infection, and this is the same as always. I do not believe there is a man living who can look at a genital lesion and say "luetic," or "not luetic," and I believe that if he tries it he shows his ignorance. We are past the older methods of diagnosis by feel, touch, etc., when we have the exact and precise method of diagnosis as the dark field in genital lesions. I should call it malicious practice to doctor up a lesion on the genitalia with different medicines as nitrate of silver, calomel, mercurochrome and what-not until this important examination has eliminated primary syphilis. If we wait until this patient has a sero-positive syphilis then his or her chances of cure have certainly been jeopardized by the physician doing such practice. There is not a man in this audience who cannot do these little things, and how far-reaching they may prove to be.

Pyelitis of pregnancy has been a much discussed subject. Different theories have been advanced as to the cause, still at this time we are more or less in the dark as to the etiological factor or factors. If this condition presents itself, and cannot be controlled with increased water intake, rest, and some urinary antiseptic, instrumentation as cystoscopy and urethral catheterization with pelvic lavage is in order.

I wish here to say a few words about urinary antiseptics. One of the best I have been able to find is water. Urotropin, with an acidifier, as acid sodium phosphate, acts excellently in some cases. Best results can be secured from this therapy, I believe, if you watch the reaction of the urine, giving urotropin and acid sodium phosphate for from five to seven days, then switching to an alkaline with neutral acriflavin. Hexylresorcin has the disadvantage of gastric upset in a great number of cases; too, it must be given for a greater length of time to secure results. Pyridium, serenium and other dyes are best given with a decreased water intake to insure a concentration of sufficient strength for action, and here you must consider the possibility of increased pathology through concentration of urine. Helmholtz and others of the Mayo clinic have recently published articles on ketogenic diet and its influence on urologic infections. In bacillary infections this mode of therapy has produced good results and even better than any other. Rigid care as to detail must be carried out; ketone bodies must be produced in the urine, and the urine must be kept at a hydrogen ion concentration of 5.2 or less. Montague Boyd, of Atlanta, in Southern Medical Journal of August, 1929, in speaking on urinary antiseptics, says: "The publicity given urinary antiseptics in the last few years makes it advisable to redirect the attention of the profession to

the need of removing the cause of urinary infection, as well as treating the patient with urinary antiseptics. The cause for the production and continuation of the infection being removed, there is a tendency for the body to overcome infection, so that in many cases only a little assistance from urinary antiseptics is required for apparent cure."

One of the most recent contributions to urologic research was announced in 1929 by Von Lichtenberg, of Germany. He had developed a compound of urea and iodin (uroselectan) which, when injected intravenously, was almost wholly eliminated by the kidneys, and when in sufficient concentration in the urine would cast a shadow on an x-ray film. This, classified as intravenous urography, was hailed by some as an absolute diagnostic procedure, despite its author's warning to the contrary. Many different compounds have since then been introduced, the latest and easiest given being neo-iopax. There are definite limitations to the diagnostic value of intravenous urography. It assists greatly in hydronephrosis, calculi, or any other condition where urologic stasis is suspected. It also assists greatly in the interpretation of renal function. It should be used in any case where cystoscopy is impossible or extremely painful, as contracted bladders, tuberculosis of the bladder, massive hypertrophy of the prostate, stricture and other conditions where urethra will not admit a cystoscope. It should not be used as a sole diagnostic procedure in pyurias and hematurias with the exclusion of cystoscopy and retrograde urography.

In and around the posterior urethra in the male are many interesting and very complex structures. To this day we do not know the function, nor do we understand the veru-montanum, that delicate structure forming the floor of the posterior urethra. It is here that the seminal vesicles empty; the vesicular ducts traverse the prostate and empty on either side of the veru-montanum. The prostate empties by some fifteen to twenty small ducts on the floor of the posterior urethra. To remind you, this posterior urethra is just about equal in length to the female urethra, but in addition has all of the previously mentioned structures. Many times polypi, excessive redness, and minute ulcerations can be readily demonstrated and controlled by cautery, medicinal or electrical. The instillation of silver nitrate 1-8 to 1 per cent, sounds, Kolman dilator, and non-specific protein injections will in many instances get a satisfied patient. If it does not respond, then further consideration may be given vasotomy or vasectomy with injection of silver salt solution into the vesicles.

When we deal with the prostate we think of malignancy, hypertrophy, the condition commonly called prostatism, and prostatitis. Malignancy, I will not attempt to discuss, only to state that the therapy of this condition before it has metastasized is certainly surgical. If it is thought that the condition has advanced beyond cure in this way, then palliative therapy only is indicated as resection or punch procedures, providing the symptoms demand these. Prostatitis yields generally to light massage every two to four days, dilations of the posterior urethra, instillations of silver nitrate, diathermy, and non-specific protein injections. Autogenous vaccines may be resorted to, if thought necessary.

One of the momuments of urology today is the advances made in the past few years in dealing with the obstructing prostate. This condition as a rule occurs after the age of forty-five; it is insiduous in onset, the patient at first having nocturnal frequency so insiduously that he does not notice it; he grows more nervous, apprehensive, languid; the frequency increases; he does not sleep well; may have minor aches and pains over his body, migrating in character; he is not as active as formerly. In other words, there has been a slowing up of his whole organism. Nocturnal frequency, or complete retention, usually brings him to see the physician, maybe dribbling, slowness in starting the stream, or perhaps he knows he is not up to par. Here, a finger in the rectum will give you some information. Allow this patient to void all he can, and then catheterize him. If his retention is above 15 cc. he had best be put under observation; if it is above two ounces, there probably is enough blockage in the urinary outlet to seriously consider operative procedures to correct it. Local medication, mild irrigations and diathermy may cause considerable decrease in residual urine by reducing the edema present at the bladder neck. If the decrease is not noted in three or four weeks, then other procedures had best be considered. I wish to state here that I believe that these men should first be handled medically to as-

certain whether or not some reduction in residual or edema at the vesical neck will result with consequent reduction in their symptomatology. In other words, do not take these men off the streets and operate them in any way or fashion, for to do so only encourages failure. During this period of medical treatment the patient has been studied carefully, blood chemistry has been made, his cardio-vascular system has been checked, he has had rest and drainage, he feels or should feel much better. During this time a vasectomy should be done. Here I wish to stress the importance of this simple procedure. The best statistics we can gather vary from 5 to 10 per cent of epididymitis following any type of work surgically done on the prostate. This is a very disabling condition, and often renders these old men much worse than anything which could happen to them. This simple tieing of the vas will prevent epididymitis, and should be done on each and every man presenting any symptoms of prostatism. It takes some seven to ten days for these tissues to heal sufficiently to warrant further work in the urethra, but you can work in this field almost at will after this has been done. The next step is to pass a cystoscope or cysto-urethroscope and study carefully the obstructing tissue, assure yourself of the ability of the urethra to carry a straight instrument of this calibre. Search his bladder for calculi, and diverticulae, catheterize his ureters and do a divided P.S.P. test if thought necessary. Radiograph work can be done, cystography, and unrethrography if thought necessary. I have heard Doctor Hugh Cabot say that most any surgeon could do a prostatectomy, but that very few urologists could prepare a patient for this grave procedure, nor post-operatively care for him in the best way. It is the pre- and post-operative procedures most often responsible for the high mortality and morbidity.

There has recently been in the literature procedures described which, in time, I believe will revolutionize the surgical work on the prostate gland. This is by so-called resection of that portion of the gland causing the dam. This, in some operators' hands, has produced excellent results. Time must pass before we will be able to definitely say to what extent it will replace older procedures of gland extirpation. Scientific medicine is very reticent in accepting any procedure without careful proof and trial. This is the reason we, as practitioners of medicine, should be so proud of our profession, and the heritage which is ours. This is the primary reason for the existence of different cults and sects, offshoots, bastards in the regular practice of scientific medicine, branching from the parent organization and becoming in common parlance "Bolsheviki". It is because they, in their zeal and enthusiasm, do not wait for the approval and sanction of the medical profession as a whole, but decide to sell it to the gullible public regardless, in some instances, of disapproval, knowing in some cases that it will not meet the requirements. On the other hand, progress in medicine depends on research work, and pioneers are needed in advancing any new method, principle or procedure. Surely, in urological work we owe these men more than we ever can repay. To Caulk of St. Louis, Young of Baltimore, Collins, Kirwin and McCarthy of New York and Davis of North Carolina we owe much in advancing and perfecting to its present stage the technic of prostatic resection and punch.

I am sure there is much confusion at present in the terminology used. There are four general methods of electro-surgical procedure for the relief of prostatic obstruction. First, the Collins method. This destroys that portion of the gland by electro-coagulation, and this tissue sloughs away. Success in this method usually requires multiple sittings. Second, the Kirwin method. This is performed by first coagulating the obstructing tissue, and its immediate removal by a bladder neck resector. Third, Caulk, or Young punch, in which a cold or cautery punch is used to accomplish the same object. Fourth, the Davis or McCarthy method. This is by resection, and should be the only method so named. It is based on the principle of using a high frequency cutting current under water, and with this current resecting with a wire loop the offending tissue. This is a highly technical procedure; you must be at home in the posterior urethra, able to be absolutely sure of your landmarks, able to distinguish and know at all times the location of the veru-montanum and trigone with its respective position to the electrode and its traversing arc. You are using a highly potent instrument, a current which has much potential damage should it be applied to some strategic point, as the veru

or trigone. The Stern or Davis instrument uses the same type of sheath as the cautery punch; that is, the fenestra is closed at the bladder end. The McCarthy instrument is based on his original foroblique panendoscope, and has the fenestra or bladder end open.

There is, and has been, much discussion in the literature in the past few years as to the work necessary for the relief of prostatic obstruction. Caulk has steadfastly maintained, that if you establish drainage the offending edematous tissue will recede, placing his supposition on the fact that after a patient has had preliminary catheter drainage or suprapubically the prostate will recede. This is certainly true. We have been surprised to find, at operation for prostatectomy, a very small prostate after drainage had been instituted, when, before the patient was drained, there appeared a massive prostate and cystoscopically median and lateral lobes were demonstrated to be greatly enlarged. We must have time before we can come to any conclusions concerning the statements that resection, punch, or what-not will almost or entirely replace the older operative procedures of removal of the gland. Not so long ago urologists were greatly concerned over the technic of suprapubic versus perineal prostatectomy; now it is generally agreed that it depends on the operator and his familiarity with the procedure. It should be said that resection or punch should be restricted to those men who have the opportunity to continuously do them, and not by men who would do one only occasionally. Mind you, not that he could not do them, but because the patient will have better chances in the hands of one trained for this type of work. It should be remembered that a patient must have just as much preoperative preparation for a punch or resection as if you were going to enucleate the gland. It is not the operative procedures which produce the mortalities or morbidities in these old men, but it is, rather, the condition of their hearts and kidneys which has been caused by back pressure at the bladbladder neck.

May I draw this to a close in hoping that I have confined myself to statements which are not overly-ambiguous. I claim no priority for any of them, and if I have brought you a message of the advances in urology, and how it can assist the general practitioner, I am content.

PEDIATRICS OF THE FUTURE*

CARROLL M. POUNDERS, M.D.
OKLAHOMA CITY

No other branch of medical practice enters into and becomes so much a part of the social and home life of the commonwealth as does pediatrics. This being true, it, more than any other field of work, must be delicately attuned to the economic and emotional aspects of community existence. It was one of the last phases of medicine to be accorded recognition. While an English book on the subject (Phaers' Book on Children) appeared in 1545, it really began to be recognized as a specialty about the middle of the last century. Dr. G. F. Still, who is just retiring from hospital engagements, was named as pediatrician to King's College Hospital in 1899. This was the first time a periatrician had been appointed for any hospital in London. Up to that time, the children's ward had been under the care of a gynecologist, or the most junior member of the staff, who had the position until he was promoted to an adult ward. At the meeting of the American Medical Association at Atlantic City, in 1909, a resolution was passed which stated, among other things, that: (1) Pediatrics should be represented in the curriculum by a full professorship independent of any other chair, and (2) that the study of pediatrics should be compulsory and should be required for graduation. The extremely rapid development of this branch, from that time to the present, has been amply justified by the marked lowering of the mortality and morbidity rate among infants and young children and by the general dissemination of knowledge of feeding and nutrition and of the control of communicable diseases.

It is interesting to note how the practice of this specialty has changed within the past two decades. Papers read before the earlier pediatric gatherings dealt largely with the diagnosis and treatment of various acute ailments and with various methods of artificial feeding. It was more like the application of the general practice of medicine to infants and children. The latter were treated more like they were diminutive adults. Then infant mortality began to claim attention and child welfare and preventive pediatrics

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began to loom up. Studies in physiology and bio-chemistry soon put the specialty on a much higher plane than it had occupied before. Wonderful advances were made in the study of deficiency diseases, such as rickets and scurvy. Immunization against and the control of contagious diseases made unprecedented strides. Child psychology and psychiatry are now occupying the limelight. As a matter of fact, the present day practice of pediatrics is quite different from what it was twenty years ago.

Now these evolutionary changes have brought to the pediatrician certain problems and worries. It was never a very lucrative specialty as the fees were generally small compared with the amount of time and work required. It was necessary to depend upon a large volume. In the tendency towards socialization of medicine, pediatrics has gone farther than any other branch. The various child health centers, well baby clinics, child guidance clinics and such-like, have taken care of a large volume of the work. Philanthropists and legislators have tried to outdo each other in the interest of the child. The wholesale free immunization of children against communicable diseases has made great inroads into our work. Through our educational campaigns enough knowledge about preventive pediatrics, infant feeding and immunization against contagion has been disseminated among the profession generally, so that they have come to feel more able to take care of their own pediatrics. Consultations are much fewer than formerly. The obstetricians continue to look after their babies in many instances. These and many other factors have contributed to considerable change in the status of the pediatrician. One hears little that is optimistic but much of pessimism among his colleagues in this work.

Now, is this atmosphere of gloom and pessimism justified? Is there no longer any need for specialists in pediatrics? Is not our existence justified by our past accomplishments? I believe that there is just as great a field for the pediatrician today as there has ever been; in fact, much greater. I believe that we can generally blame ourselves for not keeping in step with changing conditions and making our services available to more people. We must become specialists in pediatrics and not in the diseases of children. We can no longer justify our existence by simply trying to apply the practice of adult medicine to infancy and childhood. One does not have to be extraordinarily observing to see that there has been a great change in the type of service required of us today. While such common worries as summer diarrhea, pneumonia, pyelitis, upper respiratory infections and the like are still with us and probably will continue to be as long as we practice medicine, still they play no such prominent parts in our daily routine as they once did. Today our job consists more in supervising the feeding during the first few years so as to produce the best possible physical growth and development; of the application of the means which are at our disposal for preventing infectious diseases; and of the guiding and assisting parents in bringing up children according to the best principles of mental hygiene so that they will be efficient members of society. The thing which I mentioned last is today by far the most important of all. We have been doing a fairly satisfactory job in the field of nutrition. Most all of our infants are much above the standard tables for height and weight that were put out a few years ago. We have almost eliminated diphtheria and some of the other dread diseases—(although one must admit that there is much to be done yet in the field of preventive medicine). But we must confess that our accomplishments in the field of mental hygiene up to now are nothing to stir our pride. Children are growing up with all sorts of abnormal mental reactions and mal-adjustments that make it impossible for them to fit properly into the community and become happy, efficient members of society. That is our problem, and it is our job to set about correcting such a situation. It is far from simple and easy, but we cannot possibly shirk or sidestep it if we are going to continue to justify our existence as specialists in a particular branch of medicine.

There is one thing which, I think, has impeded our progress and prevented us from making our services available to a greater number of people. The old family doctor formerly charged only when he wrote a prescription or dosed out some powders. A patient might sit and enumerate complaints and ask questions for half a day but there would be no charge for the time. In other words, the patient paid only for what was tangible or material. This obsolete idea has been hand-

ed down and is still being used to a large extent today. Most of us are still making it a practice to charge only when we make a home call or when the child is brought to the office to be weighed, measured and prescribed for. There are numerous telephone calls for which most of us are unable to charge. Hours are spent in talking, giving advice and correcting misinformation—and there is no satisfactory basis for putting a monetary value on such services. We detect some behavior problem in the child which will put a great tax upon our time and ingenuity to correct—still we are at a loss to know how to make a proper charge for the time and energy thus spent. And so it goes; we are called upon to give our time and efforts without any very satisfactory way of charging for them.

Now, my own feeling is that our present methods of charging for our services are obsolete. I can see but one satisfactory way of doing it, and I think that we shall all eventually come around to it. That is to take care of infants and young children on a yearly basis. A reasonable charge can be made for the year's service and for this charge we can render what services are necessary. The plan during the first year can be made to include hospital visits before the baby is taken home; one or two home visits, if necessary, before the mother is able to come to the office; regular office visits at such intervals as are considered necessary; complete physical examinations at these visits; weighing, measuring and checking up on the state of nutrition; feeding supervision, formulae and directions for starting the various foods; routine laboratory tests, such as urinalyses, blood counts and hemoglobin estimations. During the second year and later, of course, there will be the immunization against infectious diseases, advice on clothing, habit formation and the like. In other words, all the needs of the child will be looked after and a reasonable charge made for the service.

If we should all institute such a procedure as this and fully acquaint our patients with the advantages it holds for them, I am sure it would become popular. Then there would be no need for the obstetrician to care for the baby for the first six weeks in order to save the people the extra expense. The cost could be modified so that people who frequent the welfare clinics could be cared for in the offices of private physicians. There would not be such a need for behavior clinics and all the other satellites that revolve about our specialty. In other words, the pediatric needs of the community can be taken care of in the offices of the pediatricians. Where else is there a more fitting place?

1200 North Walker.

DEVELOPMENT OF KNOWLEDGE CONCERNING ROLE OF SYPHILIS IN CARDIOVASCULAR DISEASE

Lewis A. Conner, New York (Journal A. M. A., Feb. 24, 1934), in his study of the part that syphilis plays in cardiovascular disease, states that as syphilis came gradually to have more definite outlines, and especially as anatomic studies became more frequent, the association of a history, or of the external signs of syphilis with aortic aneurysm began to be noticed. He reviews and quotes some of the world literature from the sixteenth century to the present day and believes that the contribution of Welch contains almost all the essential facts relating to the etiology and pathology of syphilitic aortitis and aneurysm as they are known today. He found a characteristic lesion of the wall of the aorta, associated in most instances (66 per cent) with syphilis but in a few instances with rheumatic fever or chronic alcoholism, which preceded and was the cause of the aneurysmal dilation and which consisted of "a diseased condition of the contiguous layers of the internal and middle coats of the vessel—a tissue growth terminating in degeneration—which by impairing the elasticity and contractility of the walls, allows of their expansion and dilation under the tension of normal blood pressure, or this abnormally increased by any cause." He noted that the process began at the root of the aorta and proceeded distally and that the sinuses of Valsalva were usually involved, as were also frequently the aortic cusps. The process, he declared, might retrogress without serious damage to the system at large, but if entensive or severe was followed by one of three fatal complications—aneurysm, damage to the aortic valve or hypertrophy and dilatation of the heart. Almost the only thing lacking in his description is mention of the proneness of the aortic lesion to encroach on the mouths of the coronary arteries.

R. B. DAVIS CO. COCOMALT

Specialists in the study of child nutrition have been quick to recognize the value of milk as the mainstay of the child's diet.

"But what," asks the frantic mother of a youngster who dislikes milk, "can I do to make my child eagerly want that which he now rebels against?"

Today the doctor who is confronted with this query can solve this age-old problem by the helpful advice to mix Cocomalt with the milk. For by the simple addition of Cocomalt, milk not only becomes a delicious chocolate flavor drink—but its food-energy value is practically doubled. Cocomalt in milk provides extra proteins, carbohydrates and minerals (food-calcium and food-phosphorus). It is also a rich source of Vitamin D.

Thus Cocomalt not only induces youngsters to drink all the milk they require—it provides extra food-energy value as well and a rich supply of Vitamin D. Cocomalt is accepted by the Committee on Foods of the American Medical Association.

CHAIRMAN'S ADDRESS.—SECTION ON GENERAL SURGERY*

JOHN F. KUHN, M.D.
OKLAHOMA CITY

I feel the necessity of bringing to your attention, in a public manner, the seriousness of one of the most colossal frauds with which modern surgery is confronted. A fraud which is deterring the skilled surgeon from the application of his skill in the saving of life and human suffering; which is costing the lay public an immense amount of suffering and is mulcting the conscientious, skilled surgeon of his well-earned competence.

I speak of the modern racket of unwarranted suits against surgeons, in which a combination of unscrupulous doctor and lawyer is set up for the express purpose of preying upon the unwary surgeon, whose sole thought and purpose has been the welfare of his erstwhile patient.

I am sure that the legal profession, as a whole, deplores this condition just as much as the medical profession does. Their machinery for control of this situation is much less perfect, however, than is ours; therefore it seems to me that organized medicine should initiate the steps for the squelching of this menace to the life and happiness of the unsuspecting public. For in the last analysis it is the people who suffer most from the continuance of this fraudulent practice.

The internist is less exposed to these suits than is the surgeon, since the surgeon, in the practice of his art, must of necessity traumatize normal tissues in order to reach the pathological; he must, to a certain degree, produce some permanent damage to the normal. The eventual result being that the patient has a lasting impression of the harm he has suffered, and he is likely influenced by this into forgetting the seriousness of the condition for which surgical intervention was necessary, and to ascribe, finally, his imperfect restoration to complete normal, to improper surgery.

The purely medical practitioner is not confronted with these conditions, and so is less exposed to unwarranted and fraudulent suits.

The surgeon is confronted with them because the unfortunate patient can always find a sympathetic ear in some unskilled, untrained, or fraudulently inclined surgeon, who, without knowing all of the underlying facts, and perhaps not caring to know them, stimulates in the patient a further resentment against his original surgeon instead of quieting his fears and showing him the benefit he has received—and so the case is built up.

To protect himself against this fraudulent practice, the surgeon is obliged to keep up a high-priced insurance, the fee for which is gradually growing prohibitive; and the very fact that insurance is carried stimulates, still further, the cupidity of the unscrupulous doctor and lawyer combination, their conscience (if there could possibly be any conscience left) being salved by the argument that the insurance company would pay the bill anyway, the patient's welfare receiving but scant consideration, the actuating motive being the amount of profit which will accrue from this illicit action.

Now, it appears to me that organized medicine must, without further delay, take steps to eliminate the untrained, unskilled and unscrupulous surgeon, and to cooperate with the legal fraternity in such a manner that the public may be protected from this growing racket. I believe that our own State Medical Association should finance a well-organized committee for the study of this situation from all viewpoints, and undertake to interest the State Bar Association to do likewise. In this manner, and by cooperating with them, to arrive at the proper solution which may be finally adopted as a statute for the eventual protection of the public against this growing fraud.

*Delivered at Annual Meeting, Oklahoma State Medical Association, Tulsa, May 21, 22, 23.

INCIDENCE AND PATHOGENESIS OF DEGENERATIVE ARTHRITIS

In order to gather more precise information regarding the incidence of degenerative arthritis, Chester S. Keefer and Walter K. Myers, Boston (Journal A. M. A., March 17, 1934), examined approximately 150 knee joints obtained from patients dying of a variety of diseases. Aside from the observations, they have compiled from the literature the results of anatomic studies of the joints as found at necropsy by a number of observers. From these studies they conclude that the incidence of degenerative arthritis increases with advancing age. It is more prevalent in certain occupations, when there has been injury to the joint surfaces, and when static deformities are present. The anatomic changes can be explained on a basis of injury to the cartilage and bone, which follows the wear and tear of the joint structures, and are not due to any particular disease process.

FUSO-SPIROCHETAL DISEASE*

A. S. PIPER, M.D.
ENID

In his book on epidemics, Hippocrates refers to aphthous affections of the mouth of a malignant nature, which often developed early in the spring. These infections may have been either angina or diphtheria. Aretaeus probably recognized true fuso-spirochetal angina, for he speaks of "broad, hollow, foul" ulcers of the tonsils, and says: "If the disease spreads outward to the mouth and reaches the columella and divides it asunder, extends to the tongue, the gums and the alveoli, the teeth become loosened and the inflammation seizes the neck, they die within a few days from fever, fetid smell, and want of food. But, if it spreads to the thorax by the windpipe, it occasions death by suffocation within the space of a day, for the lungs and heart can neither endure such smell, ulceration, nor ichorous discharges."

The first modern description of this disease was by Van Swieten in 1728. He observed ulcers which attacked the lips, cheeks and tonsils. These were extremely fetid and the ulcers of the tonsils were mistaken for those caused by a venereal virus and were treated, in consequence, with mercury. It was found, however, that the mercurials were not only useless as a curative agent, but actually aggravated the disease.

Our real knowledge of the oral spirochetes begins with the discovery of the microscope by Cohn, in 1875. Miller, who is justly called the father of oral bacteriology, labored for thirty-five years on the organisms found in the mouth, and his textbook is still standard. Apparently, he included all the oral spirochetes under the term "spirocheta dentium". He failed to cultivate these organisms and ventured no opinion as to their pathogenicity .

Evidence of the association of oral spirochetes with disease began to appear as early as 1867 when Leyden and Joffe found closely wound spiral forms in the lungs and sputum of cases of typical pulmonary abscess and gangrene; also progressive contraction of the trachea, and pulmonary abscess following introduction into the lungs of shreds and scrapings from the mouth.

Plaut, in 1894, described treponema dentium accompanied by fusiform bacilli in the lesions of hospital gangrene and angina of the pharynx. Neither Plaut, Vincent, nor any of their immediate successors were able to cultivate the oral spirochetes. Muhlens and Hartmann, in 1906, were the first to obtain pure cultures of treponema dentium. More recently oral spirochetes of various types have been isolated and grown in pure culture, by Noguchi, in 1912, and others.

Any organism that has a fusiform shape may be regarded as a fusiform bacillus. Miller, Plaut, Zingard, Orth, Fruhwald, and Veillon observed fusiform bacilli before Vincent, yet his insistence on their importance in disease was so constant that it is not surprisiing that his name is commonly associated with the fusiform bacillus.

Fusiform bacilli are found about the teeth in practically every mouth associated with the oral spirochetes. Smith found fusiform bacilli in 80 per cent of the tonsils, and Pratt identified fusiform bacilli in broth cultures from the throat in 200 consecutive patients. They have also been found in the normal intestinal tract, and about the external genitalia of both males and females. Krumwiede and Pratt isolated fusiform bacilli from noma, ulcer of the tongue, Vincent's angina, discharging ear, pyorrhea, and ulcerative gingivitis.

A controversy has raged in the literature on the question of whether the fusiform bacilli develop into spirochetes, or vice versa. Vincent favors the view that they are different forms of the same organism. Muhlens, Hartmann and others stoutly maintain that they are entirely different organisms. Sanarelli points out that fusiform bacilli are generally found near the surface of morbid processes, mixed with other bacteria, while the spirochetes are most abundant in the depth of the lesion near the normal tissue where anaerobic conditions prevail.

The first cases of ulcero-membranous angina with fusiform bacilli and spirochete infection reported in the United States were by Sobel and Herrman, in 1901. Many cases have been reported since then; however, it did not become widespread until after the World war, since which time it has become one of our major post-war problems.

In view of the conflicting claims of Plaut, Vincent, and Veillon, it would seem

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*Chairman's Address, Delivered Before Section on Eye, Ear, Nose and Throat, Annual Meeting Oklahoma State Medical Association, Tulsa, May 21, 22, 23.

advisable to drop the term Vincent's angina and refer to this infection as fusospirochetal disease.

Predisposing causes: When people are crowded together in large groups, as in mining camps, prisons, schools, and army camps, the infection may take on the character of a true epidemic. It has been found that these epidemics were caused by the highly standardized, strictly economical diet, such as commonly used in army camps, prisons, eleemosynary institutions, containing an insufficient amount of fresh vegetables and fruits, and consequently deficient in vitamin C. This has been proven by the subsidence of new cases when a liberal amount of milk, tomato juice, and cod liver oil was added to the diet.

Bacteriology: As stated before, fusiform bacilli and spirochetes may be found in the mouth and throat of seemingly normal patients, so it has been proven by experimentations of Smith and others that the typical necrotic, foul-smelling ulcer or abscess cannot be produced by either the fusiform bacilli or spirochetes alone, but by a symbiosis of a spirochete, a fusiform bacillus, a vibrio and a coccus, usually an anaerobic hemolytic streptococcus.

Pathology: In a typical ulcerative progressive type of the disease, one can distinguish three definite zones of involvement: First, the external necrotic layer is composed of dead tissue and masses of bacteria of all kinds, and the fusiform bacilli and spirochetes are infrequent in this area. Second, beneath this superficial zone is a zone which is only partly necrotic. The cells can be distinguished, but are damaged to varying degrees. Fusiform bacilli predominate in this zone. Spirochetes accompany the fusiform bacilli, but are not numerous. Third, in the third or innermost zone the spirochetes occur practically alone or accompanied by an occasional fusiform bacillus. The tissue cells in this area seem perfectly normal. There is no accumulation of pus cells. As the spirochetes progress into the normal tissue, the fusiform bacilli and other organisms follow until the entire tonsil or involved tissue is destroyed. This fact, that the spirochetes lead in the invasion into the normal tissue, is accepted by Zinserling as sufficient proof that the spirochete is the most important member in this symbiosis of anaerobic organisms.

Complications: Many of the milder cases, if left untreated, eventually recover. The more severe ulcerative types are prone to spread to the nose or sinus, larynx, and lungs, or may be complicated by endocarditis, pyelitis, nephritis, rheumatism, arthritis, or purpura hemorrhagica, unless early vigorous treatment is given. Fatal hemorrhage, due to erosion of the carotid, has been reported by Bouty, Dickerson, Delsaux, and Cadman. The case reported by Cadman was a physician, and the angina, with subsequent fatal hemorrhage, followed a tonsillectomy. Thompson saw an extension of the process to the sphenopalatine fossa, resulting in an abscess of the brain. I had a case of arthritis of the mandibular articulation of two years' standing, who had been advised by three competent doctors and dentists to have a tonsillectomy. The patient had no discernible inflammation or ulceration of the throat. Temperature was above 100 degrees and smears from the mouth and throat were positive for fusiform bacilli and spirochetes. About two weeks' treatment, local and systemic, cleared up the temperature and also the soreness and stiffness in the submaxillary articulation. Another case, one of extensive ulceration of the hard palate area which necrosed through into the maxillary sinus, with an abscess pointing externally under the orbit, superimposed upon a syphlitic patient under intravenous neoarsphenamin treatment. This patient died, probably from a combination of the two diseases. Theoretically, from the treatment used, complications at least should have been checked, but he was undoubtedly arsenic fast, which I did not suspect at that time, about five years ago, or I should have substituted vigorous bismuth treatment.

David T. Smith reports an analysis of 1212 cases of pulmonary abscess. Three hundred thirty-eight, or 28 per cent, were found to have followed tonsillectomy. Kline, Arch. Surgery, 1929, reports that 50 per cent of the lung abscesses in children, and 90 per cent in adults, are caused by fuso-spirochetal organisms.

Infected material from the teeth and tonsils may be inspired into the lungs with the greatest ease. In 1922, and again in 1924, Meyerson, M. C., "Laryngoscope, 1922," bronchoscoped a number of patients immediately following tonsillectomy and found blood below the vocal cords in 76 per cent. Daily, "Texas State Med. Journal, 1927," examined 100 patients after operation and found blood in the tracheobronchial tree in 78. Iglauer, "Jour-

nal Amer. Med. Ass'n, 1926," examined 50 patients after local tonsillectomy and noted blood in the trachea in 38 per cent. During the past six years all cases of bronchiectasis have been studied at the New York State Hospital for incipient tuberculosis, and fuso-spirochetes have been demonstrated in 80 per cent.

The most extensive complicated case that I have seen, with recovery, was referred to me for severe hemorrhage following a few days' illness. Examination revealed a large ulcer on the buccal surface, opposite the back molar, as well as several other smaller ones, with extension posteriorally and upward into the nose. A pyelitis was present on entry. About the fifth day an extensive endocarditis developed, involving all the valves, that looked for about ten days as though it would prove fatal.

Differential diagnosis: The most common diseases to differentiate are follicular tonsillitis, syphilis and diphtheria. Since fuso-spirochetal infection has become so prevalent I do not believe that we are giving our patient reasonable care if there is much ulceration, or some vague, unexplainable pain about the jaw or ears, unless a laboratory examination is made, and in some cases, which are negative upon first smear, which do not improve with indicated treatment, a second smear should be made, which may prove positive for the fuso-spirochetes. Also, one may find both a syphilitic and a fuso-spirochetal infection in the same patient, as I previously cited.

The following two fatal cases emphasize the advisability of a laboratory test:

CASE NO. 1

Donald, A. Age 2 years. Sick about one week, running temperature. Four days ago acted as if throat were sore, became hoarse, and difficult swallowing and breathing gradually developed. This case was diagnosed as diphtheria by the family physician and was given one dose of diphtheria antitoxin. Patient was referred for tracheotomy. At entry, temperature was 104, cyanotic, difficult respiration. Smear was negative for diphtheria but positive for fuso-spirochetes. Culture was also negative for diphtheria. A tracheotomy was performed, which relieved the breathing and cyanosis. The patient died about fifteen hours after entry, with a severe nephritis and lung oedema as complications.

CASE NO. 2

Earl S. Age 7 years, 11 months. Has had whooping cough about three weeks. Five days ago developed sore throat. Consulted family physician three days ago on account of difficult swallowing and choking up. Patient referred with a provisional diagnosis of diphtheria. On examination there was extensive sloughing areas on the tonsils, palate, and epiglottis. Smear and culture were negative for diphtheria, but positive for fuso-spirochetes. Patient had paroxysms of choking accompanied by cyanosis. A trachectomy was performed about fifteen hours after entry. A heavy, tenacious exudate was removed through the tracheotomy opening which showed fusiform bacilli and Vincent's spirillium present. Two days later an acute nephritis developed and the patient died four days after tracheotomy with extensive lung involvement.

Treatment: The milder cases can be relieved by the use of many drugs applied locally, most all of which I have used, as well as yourself, but the past few years I have depended upon 10 per cent copper sulphate, which was called to our attention in 1927 by Dr. D. D. McHenry. This, in combination with sodium per borate, has proven most satisfactory to me. However, in the more severe cases, in which ulcrations have developed, I believe it is advisable to use some systemic treatment as a study of the pathology has shown that the Vincent's spirillium have advanced deep into the seemingly healthy tissue, underneath or surrounding the ulceration, and is hard or impossible to reach with local treatment.

In cases with delayed diagnosis in which the disease has spread to the pharynx, nose, sinus, larynx, or lungs, that we have seen quite frequently the past few years, it is imperative that we use either intravenous or intramuscular medication. Smith, "Fuso-Spirochetal Diseases," advocates neoarsphenamin or sulpharsphenamin as a routine. About five years ago, after having a few unsatisfactory results with this, I began using bismuth intramuscularly, which has proven more satisfactory in my hands.

Conclusion: That this disease has become far more prevalent the past few years and the milder chronic cases are often overlooked.

That any unexplained pain about the ears, face, mouth or throat, accompanied by a slight temperature, should have a laboratory test made for fuso-spirochete infection.

That all cases of suspected diphtheria should have a smear made and checked for fuso-spirochetes as these organisms will not grow on the ordinary culture media.

That this infection, in the majority of cases, starts primarily in the mouth and throat, and we, as specialists, should make an early diagnosis, institute vigorous

treatment, and prevent the serious constitutional complications that are prone to follow.

REFERENCES

Smith, David T.: Fuso-Spirochetal Disease.

McHenry, D. D.: Vincent's Disease, Oklahoma State Medical Journal, August, 1927.

Gill, William D.: Vincent's Infection. State Medical Association of Texas, May, 1932.

SUMMER DIARRHEA IN BABIES

Casec (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 8 level tablespoonfuls of Casec. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of Dextri-Maltose may safely be added to the formula and the Casec gradually eliminated. Three to six tablespoonfuls of a thin paste of Casec and water, given before each nursing, is well indicated for loose stools in breast-fed babies. Please send for samples to Mead Johnson & Company, Evansville, Indiana.

SEMEN APRAISAL: DIFFERENTIAL STAIN THAT ADVANCES THE STUDY OF CELL MORPHOLOGY

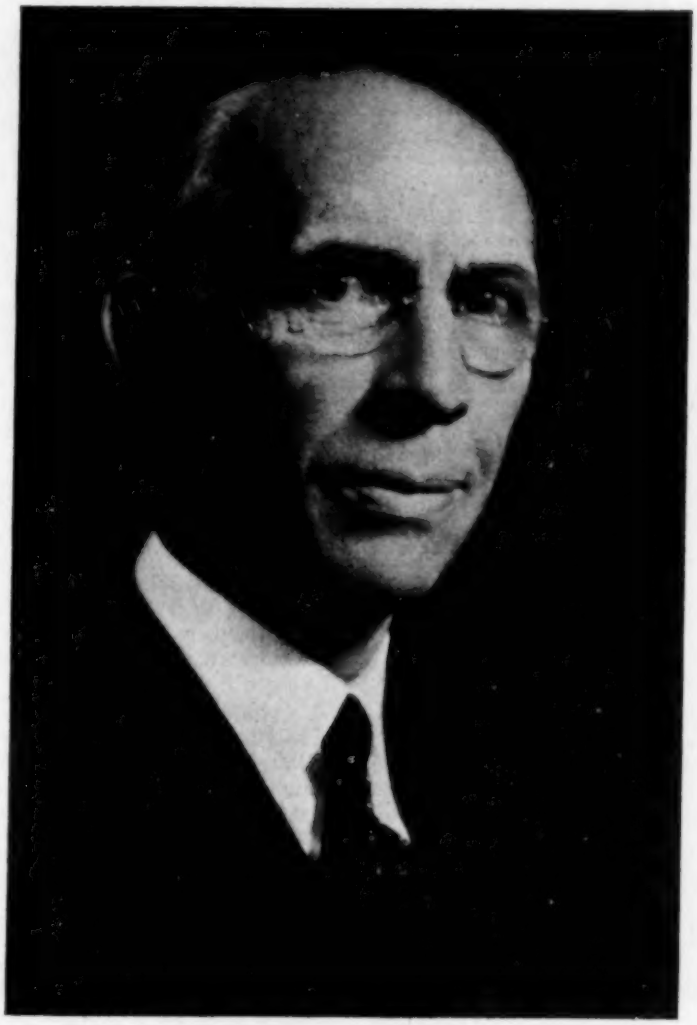
William H. Cary and Robert S. Hotchkiss, New York (Journal A. M. A., Feb. 24, 1934), endeavor to simplify and clarify the essential features of semen examination with special regard to defective spermatogenesis in otherwise healthy men. A new method of fixing and staining a microscopic specimen is detailed, which differentiates component parts of the cell without distorting the protoplasm and enables any physician familiar with the use of the oil immersion lens to recognize and classify abnormal sperm cells, and, in specimens of doubtful character, to count the percentage of these cells as an added index of deficiency or improvement. Such a contribution seems indicated, for, while the profession and also the public now recognize the potential responsibility assumed by the husband in an involuntarily childless marriage, there is convincing evidence that the more thorough study necessary for properly appraising male reproductive vigor is still unappreciated or not believed and thus incorrect diagnoses are frequent and much useless gynecologic surgery continues. Not only are urologic and endocrinologic reviews relative to male fertility commonly neglected, but the examination of the semen, the chief clinical evidence of fecundity, receives but the most elemental consideration. The authors do not aim to define an illusory point at which a male specimen may be said to be fertilizing or nonfertilizing, but strive to give the practical evidence by which semen deficiency may be estimated, errors in diagnosis reduced, and the necessity for improving the husband as an important factor in the treatment of involuntary sterility recognized. The importance of semen subnormality as an element in the sterile union may not be determined by this evidence alone but by the facts elicited in a complementary study of all factors affecting fertility in the husband and wife.

SIMULTANEOUS, BILATERAL SPONTANEOUS PNEUMOTHORAX: REPORT OF CASE, WITH BRIEF DISCUSSION OF THE LITERATURE

D. E. Markson nad Warren Johnson, Chicago (Journal A. M. A., March 17, 1934), present a case in which the sudden onset of the disease in an apparently healthy youth, the afebrile course without complicating seropneumothorax or pyopneumothorax, the negative roentgenographic evidence of tuberculosis, as well as the absence of tubercle bacilli in the sputum either by direct smear or after concentration and digestion, and the absence of changes in a guinea-pig injected intraperitoneally, together with the rapid, uneventful recovery of the patient, clearly establish the diagnosis of a simultaneous, bilateral spontaneous pneumothorax simplex. The authors believe that in their patient the pneumothorax undoubtedly occurred on the left side first and became bilateral in from four to six hours. The prognosis for apparently healthy patients with pneumothorax is good, and this is a characteristic feature of the disease. Kjaergaard's forty-nine patients with unilateral spontaneous pneumothorax have lived from three and one-half to twenty years. In one case, tuberculosis developed about three years after a unilateral pneumothorax, but this was considered a purely accidental infection. In bilateral cases, however, there is danger of suffocation, and immediate attention is needed. Permanent aspiration by a water or electric suction pump may have to be instituted when the ordinary procedure fails. It is worthy of emphasis that these patients do not need institutional after-care, as recovery is rapid and spontaneous.

SPONTANEOUS RENO-INGUINAL FISTULA

Abraham Ravich and Perry Katzen, Brooklyn (Journal A. M. A., March 17, 1934), state that spontaneous renal fistula has become a distinct rarity since the advent of modern urology, only four cases having been reported during the past thirty years. Nephrolithiasis is the most common etiologic factor. The fistula always begins as a perforation through the kidney parenchyma, causing extravasation of urine and pus, which either gradually finds its way into some viscus or presents itself subcutaneously. The authors cite a case which they believe is the only one reported of spontaneous reno-inguinal fistula with nephrolithiasis as the causative factor, the only other case similar to it presenting tuberculosis as a concomitant lesion. The case under discussion first came under observation at the hospital for a swelling in the right groin. Roentgen examination revealed a right nephrolithiasis which was at first considered incidental. However, when after incision and persistent drainage for fifteen months the fistula was outlined with iodized oil, it was found to communicate directly with a perforation in the right kidney, which was filled with a large coral shaped calculus. The patient was then admitted to the urologic service of the hospital and at operation a densely adherent kidney filled with a friable stag horn calculus was found. The latter had perforated through the kidney cortex and capsule and by extravasation had caused such a cartilaginous-like perinephritis that intracapsular nephrectomy was considered the only safe procedure. The sinus did not close completely until seven months after nephrectomy, owing to the large amount of perinephric tissue necessarily left behind. Uneventful recovery, however, was the end result.



PRESIDENT 1934-35

LEROY LONG, M.D., F.A.C.S.
Born, North Carolina, 1869

Graduated from Louisville Medical College, Kentucky, 1893.

Made Dean of the Oklahoma Medical School, University of Oklahoma, 1915, serving in this capacity and as Professor of Surgery continuously until 1932; is now associated with his sons LeRoy Downing and Wendell Long, in the LeRoy Long Clinic, Oklahoma City

THE JOURNAL
OF THE
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McAlester, Oklahoma.

DR. P. P. NESBITT.....Associate Editor
Medical Arts Building, Tulsa, Okla.

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Reprints of original articles will be supplied at actual cost provided requests for them is attached to manuscripts or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the editor, 203 Ainsworth Building, McAlester, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes of addresses, births, deaths and weddings will be gratefully received,

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application.

It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

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EDITORIAL

THE ANNUAL SESSION

The forty-second annual meeting of the Oklahoma State Medical Association, which was held in Tulsa, appears to have been a complete success in every way. The perfect organization of the program was largely due to the excellent services rendered by Dr. A. W. Pigford, general chairman, and his corps of sub-committeemen. All meeting places were in readiness at the time of the sessions, such details as projectors, screens, blackboards, etc., were on hand, and no one was required to wait for lack of proper arrangements and equipment.

Our guest speakers, Doctors Balfour, Marriott, and Helwig, presented material much appreciated by their audiences, and we wish to most sincerely thank them for their contributions. It was, of course, regretable that Colonel Craig could not be present, the serious illness of his wife making it impossible.

As expected, the Tulsa County Medical Society furnished most excellent entertainment, and if anybody in attendance failed to have an enjoyable time it was certainly his own fault, as the host doctors provided everything to make it a most enjoyable occasion.

We wish to announce that the registration was five hundred and seventy-five, which was the largest attendance we have had in many years, and we only hope that every physician who attended may feel that his time was well spent and will begin now to make his arrangements to attend our meeting next year in Oklahoma City.

Dr. Louis H. Ritzhaupt, Guthrie, was elected president of the state Association for 1935-36, and Oklahoma City was chosen as the meeting place for 1935.

Doctor O. E. Templin, Alva, was re-elected councilor for the first district; Doctors W. Albert Cook, Tulsa, and Horace Reed, were re-elected delegates to the American Medical Association for two years.

The minutes of the house of delegates will be published in the July issue of the Journal as the material was quite voluminous and it seemed impractical to abstract it and still get the June Journal out on time.

THE BELOVED PHYSICIAN

Could there be a name that would reflect more good in a member of the medical profession than the above title? To be a beloved physician several attributes are necessary—kindness, unselfishness, high ethical ideals, professional skill, high standard of morals—all are requisite to entitle a physician to this prefix "beloved".

Luke, the beloved physician, was a man of learning, not only in his profession but a man of letters. His professional ability was recognized by Paul when he made him his personal physician. Paul was not of the rugged type and Dr. Luke accompanied him on his various missionary journeys that he might advise him as to his physical care while he (Paul) used

his wonderful powers in the advancement of the cause to which he had dedicated his life. This was an early example of the efficacy of the combined strength of the ministerial and medical professions, and is today being carried out in the organization of practically all missionary work.

As to Dr. Luke's literary ability, all readers of his historical treatise in the book of Acts can testify. He has been read after by more people than any other physician, and the lessons to be learned by reading the works of this physician and author can be used to the advantage of any medical man in his everyday work.

All physicians may not agree as to his Christian doctrines, but none can dispute the wonderful lesson to be learned from his parable of the Good Samaritan, be he Jew or Gentile.

REPORT OF COMMITTEE ON NECROLOGY

The following report of the Committee on Necrology was presented before the General Session, Wednesday, May 23rd:

WHEREAS, it has pleased Almighty God to remove from our membership the following members of our Association since our last meeting:

Howard Banks Ames, Alva.
J. V. Anderson, Fairview.
W. D. Atkins, Holdenville.
David Autry, Marietta.
J. T. Barnwell, Graham.
R. J. Barritt, Pawhuska.
W. H. Black, Kansas City, Mo.
A. L. Blesh, Oklahoma City.
A. P. Brown, Davis.
O. C. Butler, Seminole.
J. H. Cameron, Healdton.
T. S. Chapman, McAlester.
F. R. Dolson, Nowata.
P. G. Dunlap, Lawton.
G. W. Goss, Pawhuska.
Ross Grosshart, Tulsa.
R. H. Hannah, Prague.
W. E. Harrington, Depew.
A. R. Haven, Blackwell.
A. L. Hazen, Newkirk.
H. C. Isles, Prague.
Emmett Johnson, Kinta.
J. A. Jones, Tonkawa.
Lambert Kuntz, Perry.
W. H. Langston, Orlando, Fla.
W. P. Lipscomb, Ponca City.
C. A. McClelland, Miami.
S. E. Mitchell, Muskogee.
R. E. Runkle, Oklahoma City.
Paul Sanger, Drumright.
W. P. Willis, Commerce.
C. E. Wilson, Boise City.

Claude A. Thompson, Muskogee, who served as Secretary-Treasurer-Editor of the Oklahoma State Medical Association from May, 1909, to October 2, 1933, or more than twenty-four years, a record of the longest service of any man in such position in the United States, which in itself speaks for capabilities and faithfulness. No greater words could be befitting this man than those of our incoming President, Dr. LeRoy Long's oration at his funeral, which appeared in the October, 1933, Journal.

AND WHEREAS, they will be missed in their respective communities in rendering the unselfish service for which every true follower of the art is noted, as well as in all social and community activities;

AND WHEREAS, the greatest loss will be to their individual families;

BE IT THEREFORE RESOLVED, that we humbly bow to the dictates of the Great Physician, who does all things well, in the calling of these brothers from their respective fields of earthly activities, and that we should try to emulate their examples in the doing of good, relief of pain and saving of life to which they consecrated their life's work and best efforts while living among us;

BE IT FURTHER RESOLVED, that a copy of these resolutions be mailed to each of their respective families and also spread upon the minutes of this association and published in the Oklahoma State Medical Journal.

ELLIS LAMB, Chairman
W. A. TOLLESON
J. A. HATCHETT

ERRORS IN MAY JOURNAL

In the report of the Committee on Tuberculosis the name of Dr. R. M. Shepard, Tulsa, was omitted, as a member signing the report.

THE EDITOR.

We have learned that transposition of some sections was made by help in our bindery department in the collating of the May Journal. We regret this exceedingly, and are quite certain the transpositions did not occur through wilful carelessness, nor extend to many copies. Close and careful attention to details leave small chance for errors in our plant, yet, occasionally they do occur in the best of regulated institutions.

THE PUBLISHER.

Editorial Notes---Personal and General

DR. O. E. WELBORN, Ada, has been elected to the office of health officer.

DR. O. W. STARR, Drumright, attended post-graduate courses in St. Louis, in May.

DR. and MRS. W. J. WHITAKER, Pryor, are vacationing in Alabama and Virginia.

DR. and MRS. E. HALSELL FITE, Muskogee, spent two weeks in May in Charlottesville, Va., and Atlantic City, N. J.

DR. R. M. SHEPARD, Tulsa, attended the annual convention of the National Tuberculosis Association which met in Cincinnati in May.

DR. and MRS. BEN H. COOLEY, Norman, spent a week in Chicago in April, where Dr. Cooley attended the American College of Physicians.

DOCTORS D. M. GORDON and C. W. ARRENDELL, Ponca City, attended the meeting of the American College of Physicians, in Chicago, in April.

DR. H. K. SPEED, Sayre, was elected to the office of Rotary club governor for the Western Oklahoma district, at their recent meeting in Bartlesville.

DR. L. C. KUYRKENDALL, McAlester, was elected district governor of the Lion's clubs of Eastern Oklahoma at their convention held at Stillwater, in May.

DR. ANSON L. CLARK, formerly of the Urological Section of the Mayo Cliinic, Rochester, is now associated with Dr. W. J. Wallace, Medical Arts building, Oklahoma City.

DR. LEA A. RIELY, Oklahoma City, attended the annual meeting of the Texas Medical Association, which met at San Antonio, May 15-17, 1934. Dr. Riely was a guest speaker before the General Meeting, his subject being "Diabetic Problems."

DR. and MRS. WILLIS K. WEST, Oklahoma City, were in Montreal, Canada, for the meeting of the International Society for Crippled Children, in May. They sailed for Europe the latter part of May and will visit in England, France, Scotland, and Switzerland, returning about the first of August.

DR. CHARLES R. HUME, Anadarko, one of the few '89ers left, celebrated Sunday, May 20th, the staking out of a claim at the original opening of Oklahoma, forty-five years ago.

Dr. Hume was President of the Oklahoma State Medical Association in 1916, and has been secretary of the Caddo County Medical Society for twenty-two years, having been a member of the Oklahoma Territory and state society since soon after its organization.

News of the County Medical Societies

MUSKOGEE-SEBASTIAN (Arkansas) COUNTY MEDICAL SOCIETIES met in joint session at the Oklahoma Baptist Hospital, Muskogee, in May. Dinner was served at the hospital and the following program was presented by Sebastian County:

"The Decline of Prescription Writing," C. K. Kennedy, Fort Smith; "Some Points in The Management of Labor," C. B. Billingsley, Fort Smith; "Unusual Malignancies About the Face," D. W. Golstein, Fort Smith.

GRADY COUNTY MEDICAL SOCIETY met at Enid, May 4th. Following dinner the following program was presented:

"Carcinoma of the Cervix," Dr. Paul Champlin, who has recently returned from New York where he has been engaged in cancer research work.

Dr. D. S. Downey, Chickasha, discussed this paper.

"The Kidney," was presented by Dr. O. R. Gregg; discussion by Dr. Don Branham, Wesley Hospital, Oklahoma City, and Dr. A. L. Clark, formerly of the Mayo Clinic.

JACKSON COUNTY MEDICAL SOCIETY met May 25th and presented the following program:

"Hygiene and Management of Pregnancy," Dr. L. H. McConnell, Altus; "Nausea and Vomiting," Dr. Jesse Bird, Eldorado; "Eclampsia," Dr. R. Z. Taylor, Blair; "Abortion," Dr. J. S. Stults, Altus; Ectopic Gestation," Dr. E. W. Mabry, Altus; "Management of Normal Labor," Dr. Knox Collier, Tipton; "Placenta Previa," Dr. John Allgood, Altus; "Breech Presentation," Dr. R. H. Fox, Altus; "Caesarean Section," Dr. R. H. Fox, Altus; "Uterine Inertia," Dr. W. T. Ray, Gould; "Forceps Delivery," Dr. W. P. Rudell, Altus; "Lacerations," Dr. R. F. Brown, Altus; "Ophthalmia Neonatorin," Dr. E. A. Abernathy, Altus; "Management of the Newborn," Dr. John Allgood, Altus.

ANNOUNCEMENT

The Gynecean Hospital Institute of Gynecologic Research of the University of Pennsylvania, is conducting an intensive study of families into which congenitally malformed individuals have been born.

Special interest centers in families in which malformations have appeared in two or more children. Physicians who have knowledge of any such families are urged to communicate with Dr. Douglas P. Murphy, Gynecean Hospital Institute, University of Pennsylvania, Philadelphia, Pa.

THE STATE SECRETARY'S OFFICE has received notice from the office of Dr. J. M. Bynum, Secretary of State Board of Medical Examiners that the following have had their license revoked:

Dr. J. M. Thompson, Walters, suspended for a period of five years, during which time he cannot legally practice medicine in Oklahoma.

Dr. W. F. Griffin, Watonga, suspended for a period of one year, dating from March 13th, 1934, during which time he cannot practice in Oklahoma.

Dr. R. E. Thacker, Oklahoma City, license revoked permanently.

RESOLUTION

Whereas, we are left to mourn the loss of our fellow member, Dr. Ross Grosshart, who answered the call of the Great Physician, April 15, 1934; and

Whereas, in Dr. Grosshart's death this staff has lost a capable, conscientious, fearless and loyal member; therefore

Be It Resolved by the staff of St. John's Hospital that we hereby express our feeling of regret and loss in Dr. Grosshart's death; and

Be It Further Resolved, that these resoltuions be spread upon the minutes of this staff and that a copy be sent to the members of Dr. Grosshart's family.

C. C. HOKE, M.D.,
F. L. FLACK, M.D.,
Committee.

ABSTRACTS • REVIEWS • COMMENTS AND CORRESPONDENCE

EYE, EAR, NOSE and THROAT

Edited by Marvin D. Henley, M.D.
911 Medical Arts Bldg., Tulsa

Optic Neuromyelitis. Richard A. Perritt, M. D., Chicago. Archives of Ophthalmology, March, 1934.

Optic neuromyelitis is a rare disease, known for only the past quarter of a century. Records of only about fifty cases are found, five of which are in English. The author gives a historical review of the various men and dates and when contributions were made in regard to this comparatively new disease. Devich, in 1894, is given credit for the name. From the clinical aspect this is an acute or subacute bilateral optic neuritis with subsequent myelitis. The only information that the ophthalmoscope sometimes gives is that there is present a retrobulbar neuritis. There is a more or less intense optic neuritis sometimes with small hemorrhages on the papillary border and light turbidity in the macular region. The neuritis may be followed by complete blindness or only impairment of vision with restriction of the visual field for white and for colors and occasionally with central scotomas. Return of vision is always slow, but occurs in about fifty to sixty per cent of cases. Vision is rapidly impaired within twenty-four hours to a few days, often to complete suppression of perception of light. Blindness is usually complete and remains so from days to months. Paralysis of ocular muscles have occurred in some cases. There are usually no external signs and the acute form is the most frequent. Orbital pain is a fairly constant symptom which is aggravated by ocular movements or digital pressure. Light perception first returns and then visual acuity improves to normal or nearly normal unless the patient succumbs to the coexisting myelitis. The myelitis may be entirely independent of the ocular condition. The optic neuritis may be improving while the myelitis becomes progressively worse. In about seventy-five per cent of the cases neuritis first appeared and in the remaining neuritis and myelitis occurred at the same time. The neuritis may recur before the myelitis has disappeared. After the neuritis has become evident the onset of the myelitis is from twelve hours to as long as eighty-one days, as reported in one case. Defects found in the visual fields are: temporal hemianopia, central scotoma or central scotoma combined with concentric narrowing. Scotoma may be absolute or relative. Perimetry shows defects for green and red.

Some of the diseases associated with neuromyelitis are: syphilis, nephritis, malaria, alcholism, tuberculosis and neurodiathesis. There has been no positive proof to support the different theories as to the etiology. The extraordinary feature is that the majority of cases occur in persons who are apparently in perfect health.

Microscopically there is an infiltration of leukocytes in all layers of the optic nerve. The optic tracts show degeneration, fatty infiltration and neurolgia tissue. Sometimes all parts of the nerve are involved, sometimes the central portion and other times only an isolated part of the nerve is injured. Therapeutic measures consist of the administration of mercurial preparations, iodides, salicylates, strychnine, foreign protein therapy, electrical therapy and shaded lens for photophobia, if present. The author mentions that many of the European reports of optic neuromyelitis resemble multiple sclerosis with an associated retrobulbar neuritis. He says the latter has a chronic course, and while the visual defects may come on acutely and subside rapidly, the disease is prone to recur and leave permanent damage. In optic neuromyelitis, the course is very acute, ending in either death or in practically complete recovery from both general and visual changes.

Bacteremia of Otitic Origin, Routes of Infection to the Blood Stream; Case Report With Recovery. Dr. Samuel D. Greenfield, Brooklyn, The Laryngoscope, August, 1933.

Six known routes are given by which an infection may travel from the ear to the blood stream: (1) by direct extension of the suppurative process from the middle ear, through the mastoid cells by continuity, to some portion of the lateral sinus and thence to the general circulation; (2) by direct extension of the infection through the floor of the middle ear to the jugular bulb and thus to the blood stream; (3) by primary involvement of the mastoid emissary vein; (4) by following upon a thrombosis of the inferior petrosal sinus; (5) by primary involvement of the superior petrosal sinus, and (6) through other diverse channels leading from the mastoid cavity which heretofore have gone undetermined, such as anatomical anomalies and following the course of the normal preformed body openings of the diploic vessels, the emissary venules and, lastly, the lymphatic system. In the case reported Greenfield stresses the point that the blood stream infection did not occur in any of the above-mentioned ways and due to that fact the patient recovered and post-mortem evidence could not be taken into consideration the route of infection remained undetermined.

The child presented a previously operated left mastoid and an acute otitis media of both ears. Roentgenograms did not show definitely which ear was causing the chills, septic temperature and positive blood culture for streptococcus haemolyticus. The white blood count was not alarming, being only 11,000 with 65 per cent polymorphonuclears. Otoscopic examination of both ears was practically negative except for a scanty discharge and a small perforation in each drum membrane. There was no tenderness over either mastoid region and the previously operated mastoid was completely healed with no external evidence of infection. The author states that the problem was to determine which was the offending mastoid, but does not tell by what process of reasoning it was determined to first re-open the previously operated left mastoid. When the wound was opened the mastoid cavity was found to be filled with thick creamy pus which cultured pure streptococcus haemolyticus. The sinus and dural plates appeared normal. The right mastoid was next opened

and the cells showed no softening. The sinus and dural plates appeared healthy and were not disturbed. Immediately upon liberating the pus and draining the mastoid process the blood culture became negative and the temperature remained down. A blood transfusion was given the day after operation and the patient proceeded to an uneventful recovery and about two months later the post-auricular wound was completely healed and the ears were free from any discharge.

This report is corroborative evidence that it is fairly certain there are pathways which may carry infection from the mastoid cavity directly to the blood stream without intermediate involvement of any large venous tributary. This manuscript includes a complete personal previous history, detailed history of the present illness, physical findings, laboratory findings, operation and condition of the patient from day to day.

Hypertonic Muscles of the Neck As a Cause of Headache. William Mithoefer, M. D., Cincinnati. Annals of Otology, Rhinology and Laryngology, March, 1934.

Muscles of the neck are many times not given the consideration they deserve in headache, which is one of the chief complaints registered by patients who seek relief from the otolaryngologist. If the changes in the muscles are caused by infection in the teeth, tonsils or nasal accessory sinuses, a cure is obtained by removal of the infections, but if caused by some constitutional derangement, the headache is not so easily eliminated.

Constant bending over, long car rides, nervous excitement, worry and eye strain will bring on attacks, and in women, before or during menstrual periods. Myalgia, indurated headache, nodular headache, muscular headache and muscular rheumatism are some of the descriptive names used; however, a satisfactory explanation of the true nature of the affection has not been reached. The pain generally starts in the occipital region and may extend backward through the shoulders and over the head to the frontal region. Many times the headache is present on awakening and frequently is worse when one has had more than the usual amount of sleep.

Vertigo and vomiting caused by the irritation of the nerve endings of the auricular branch of the vagus as it passes through the hypertonic sterno-cleido-mastoid muscle and earache caused from irritation of the temporal branches of the auriculo-temporal nerve which sends branches to the auricle and external auditory canal may be two very important symptoms. Whether tinnitus is caused by an irritation of the auriculo-temporal nerve or by persistent pull on the auricle by the small muscles of the ear is hard to ascertain, but it is easily seen that structural changes in the muscles may cause irritation and become hypertonic, bringing about a headache. Joints as well as muscles may be affected by potential arthritis. The joints most frequently involved are the sternoclavicular, acromioclavicular and the cervical vertebrae, while the muscles commonly involved are the sterno-cleido-mastoid, the trapezius and the scleurus capitus. The nerves and the muscles are so intimately associated that it is difficult to determine whether the headache results from a true muscular pain or whether it is due to nerve involvement. It is therefore possible for occipital nerve irritation to produce a trifacial nerve pain because of the innervation of the sternomastoid muscle.

This condition of the sternomastoid presents a fine point in differential diagnosis between hypertonia and operative mastoid in the presence of a chronically discharging ear. When examining a patient suffering with hypertonic neck muscles he is placed in a position which affords the greatest degree of relaxation to the group of muscles concerned. Hypertonic muscles of the neck are most successfully treated by massage, which will generally relieve mild cases in a few treatments, with chronic cases requiring twenty to thirty treatments before apparent benefit is noticed. In every case a routine method of message should be used and this is given in detail by Mithoefer. The application of infra red heat (from 45-60 minutes) in connection with massage has proved advantageous. Occasionally a patient will have sore spots in the muscles in other parts of the body which may be caused by lack of exercise or improper diet. Exercise in the form of walking is given, free elimination, sweat baths, meatless diet and drinking a large amount of water is prescribed. Atophan is a valuable drug in some cases and the administration of thyroid and ovarian extract is also used.

Calculi in the Submaxillary and Sublingual Glands and Their Ducts. Edward F. Ziegelman, M. D., San Francisco. Archives of Otolaryngology, March, 1934.

In this review the author recapitulates and analyzes many previous publications on this subject. Up to about ten years ago there were reported some four hundred cases in the literature and many additional ones have been reported since. There have been cases reported where many calculi have been found but there are usually present only one or two. Some reasons for removing the submaxillary gland are that: (1) a recurrent calculus in Whartons duct often signifies the presence of still other calculi in the gland; (2) that there is a definite relationship between the acute inflammation of the submaxillary gland and Ludwigs angina; (3) a negative roentgenogram does not rule out the presence of a stone, and (4) the scar resulting from the removal of the gland can be made practically invisible. The most prominent symptoms, according to Ziegelman, are swelling and pain, although one series of cases report that the repeated exacerbation of an acute infection is a more prominent symptom than that of pain.

Some of the theories as to the etiology are: Inflammatory lesions of the gland proper, epithelial debris in the smaller ducts serving as a nucleus, a central mass of bacteria, the ray fungus being the prime causative agent, persons having salivary calculi possess a so-called endocrine characteristic, actinomycosis, possibility of parathyroidal dysfunction, improper calcium metabolism, thyroid and pancreatic dysfunction and that the calculus is due to the precipitation of the constituents of the parotid secretion caused by some unknown alteration in the reaction of the gland.

Chemically, salivary calculi have been found to be composed of calcium carbonate and phosphate. The treatment depends upon the symptoms in each individual case; surgery is not always necessary. Some authorities claim that the differential diagnosis is the most important point in the consideration of this matter. The differential diagnosis includes cancer of the floor of the mouth, submaxillary lymphadenitis, actinomycosis, caricinoma of the mixed type and the specific granulomas, especially tuberculosis and syphilis. In contradistinction to some who consider probing the duct a dangerous procedure, the author thinks that this is sufficient treatment in many cases.

It is mandatory that the operator have a ready

knowledge of the complicated anatomy of the floor of the mouth. The lingual and hypoglossal nerves and the submaxillary ganglion must be carefully protected. Traumatism of this ganglion will produce profound surgical shock. Both local and general anaesthesia are employed but the general anaesthesia is preferrable since you have the patient under absolute control and any emergency such as a hemorrhage can be easily controlled. A salivary fistula is one of the untoward results which may occur following operative procedures. In his summary and conclusion Ziegelman emphasizes the importance of a correct diagnosis in these conditions, especially when physical intervention is contemplated and required.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M.D
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Human Tuberculosis of Bovine Origin. Wm. G. Savage. British Med. J., Vol. II, p. 905—1933.

Savage delivered the Mitchell lecture on the above subject before the Royal College of Physicians of London. This is an excellent and thoughtful review of the whole situation insofar as it concerns Great Britain.

The incident of the bovine infection is established by a great volume of statistics from many workers. The distribution of the disease by age and by organs is also based upon numerous statistical figures. The portal of entry is almost exclusively alimentary, although a few cases of bovine pulmonary tuberculosis are almost certainly air-borne (dust infection in dairy workers). The incident of tuberculosis in cattle in Great Britain is excessively high, averaging forty per cent.

The author discusses at length, and with perspicuity, the measures necessary to prevent bovine tuberculosis in human beings. Chief reliance must be placed on pasteurization of milk, but, at the same time, some plan should be adopted to weed out tuberculous cattle.

This article is sound and deserves the thoughtful consideration of every person interested in tuberculosis.

Treatment of Compound Fractures of the Tibia. A. Simpson-Smith. British Med. J., Vol. II, p. 1019—1933.

For the treatment of compound fractures of the tibia, Simpson-Smith recommends, in addition to the usual debridgement, fixation of the fragments in accurate relationship to one another by means of a special clamp which protrudes from the wound while sterile plaster is being applied. After the plaster is set, the wound is exposed, the clamp removed and the wound sutered. This report is based upon the records of twenty cases. The instrument and the operation are illustrated.

Fractures Du Tiers Inferieur Des Os De L'Avant-Bras Traitees Par L'Immobilisation Platree. (Fractures of the Lower Third of the Bones of the Forearm Treated by Plaster-of-Paris Immobilization.) R. Soeur. Rev. de Path. et de Physiol. de Travail, IX, June, 1932.

The author describes a modified Bohler treatment of reduction of fractures of the forearm. He advocates local anaesthesia. The reduction is performed without an assistant, countertraction is secured with a strap attached to the wall. To correct the deformity, plain horizontal traction or traction with flexion or extension, according to the displacement of the fragments, is applied. As soon as the deformity is corrected, horizontal traction is maintained while the plaster-of-Paris is applied to the bare skin. Before the plaster hardens, the hand is put in slight dorsiflexion to secure physiological relaxation of the muscles of the forearm. The patient is permitted to use his hand on the day of the application of the plaster. Six cases thus treated, with uniformly good end results, are described.

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments from LeRoy Long Clinic
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Liver Deaths and Their Prevention. How the Danger Can Be Recognized and Avoided by Use of Preoperative and Postoperative Diagnostic Measures. Samuel Weiss, M. D., New York. American Journal of Surgery, Vol. XXIII, No. 1, January, 1934.

For many years it has been recognized by surgeons that the deeply jaundiced patient is a poor surgical risk, chiefly because such patients show a tendency to hemorrhage. It has been found, however, that the degree and duration of jaundice is not always an indication of whether a patient will bleed or not.

The liver may be damaged and its function more or less deficient in cases where there is no jaundice. This is especially true in gall-bladder disease. Recent investigation has shown that there is practically always some pathological change in the liver in cases of gall-bladder disease, even if there is no chemically evident biliary statis or jaundice.

A number of cases of "liver death" have been described in apparently good operative risks. Death occurred after operation following a characteristic clinical syndrome with rapid rise of temperature, increased pulse rate and terminal signs of renal failure and uremia.

The liver has many functions besides the secretion and excretion of bile. It plays an important role in protein and carbohydrate metabolism and in blood coagulation, and has also a definite detoxifying action. Damage to the liver appears to result in the formation of toxic products, which are thought by Helwig and Schutz to be the cause of renal failure in the so-called "liver deaths".

Recent experiments by Andrews and others show that liver autolysis causes an "autolytic peritonitis" due to a toxic agent which is apparently an albumose. This condition is characterized by a dimunition in blood plasma volume and the accumulation of free fluid in the peritoneal cavity.

Because of the liver's close relation to the sympathetic nervous system any damage to this organ may result in a variety of vasomotor and other vagosympathetic nervous disturbances. Cardiac disturbances, myocardial weakness and anginal attacks not infrequently associated with gall-bladder disease are directly traceable to the liver cells. This is evidenced clinically by signs of portal engorgement followed

by interference with the general circulation and finally dilation of the right heart.

The surgical complications and postoperative deaths due to hepatic insufficiency have been studied chiefly in connection with biliary tract surgery.

Granted that it is of importance for the surgeon to determine the state of the hepatic function before operation and to guard against postoperative complications that could not otherwise be foreseen, how is this to be done?

Many liver function tests have been proposed and none have been found entirely satisfactory.

The van den Bergh test and the icterus index, both widely used to determine the bilirubin content of the serum, relate only to bile metabolism. Of these two tests, the determination of the icterus index is the simpler and this is a relatively accurate method. A modification of these methods of determining bilirubin retention has been proposed by Harrop and Barron of Johns Hopkins Hospital.

In 1931 Lichtman described a new test of liver function based on the oxidation of cinchophen.

Of all the laboratory tests available for liver function the author has found these tests by Harrop and Barron and by Lichtman to be the most reliable in estimating the functional capacity of slightly damaged livers. He feels, however, that no liver functional test can take the place of careful clinical observation. He suggests the following as valuable diagnostic signs of mild hepatic insufficiency:

1. The violet ink test—by tracing a line with ink on the anterior surface of the wrist, the yellowish tinge of the surrounding skin becomes apparent by contrast.

2. Stiffness of the articulations, especially of the hands and the nape of the neck.

3. Visual disturbances, amblyopia or transient hypermetropia in the early morning.

4. Inability to remain in a close atmosphere.

5. Appearance in the morning of red spots on the skin after rubbing with a towel.

One of these, or all of these signs enumerated above, may attract attention. But for all others, especially obese and plethoric patients, heavy eaters and drinkers, palpation of the lower border of the liver should be carried out either with the thumb alone or with the ball of the fingers hooked over the border of the liver. The patient should stand and lean over. In this position the liver is more easily felt and is found to project beyond the ribs and to be more or less tender on palpation. Another interesting observation of the author is that patients with hepatic insufficiency have at times a particular sensitiveness to thermal treatments even when they are carefully carried out.

In cases where the clinical findings or the history indicate a possibility of hepatic insufficiency, one or more of the functional tests just described should be employed. By combining the clinical examination and the laboratory tests even mild hepatic insufficiency may be detected, and any danger from such insufficiency in surgical cases may be avoided by suitable preoperative and postoperative measures.

In the treatment of liver dysfunction, the administration of large amounts of carbohydrate is of special importance. Building up the glycogen stores of the liver hastens repair of liver damage.

While insulin has been used abroad as a supplement to carbohydrate therapy in liver disease, Althausen has found that in experimentally injured livers the addition of insulin to dextrose does not increase the glycogen of the liver, but tends to have the opposite effect. The author believes that the use of insulin as a supplement to carbohydrate therapy in liver disease is not indicated and is not customary in American clinics.

The diet should be high in carbohydrates and low in protein, especially in animal protein. If not enough fluid and carbohydrate can be supplied by mouth, they should be given intravenously, by rectum or by hypodermoclysis. He advocates Hendon's method for intravenous administration. The author quotes Heyd, who believes that in liver insufficiency it is important to combat dehydration by using known quantities of fluid, as well as to supply adequate carbohydrate. He uses 10 per cent dextrose in water for the rectal drip, and 5 per cent dextrose in physiological saline solution for hypodermoclysis and intravenous injection. Sodium bicarbonate, he notes, should never be given in any form, as he has found a tendency to alkalosis in some types of liver insufficiency and after biliary tract operations. Therapy should be controlled by repeated chemical analysis of the blood.

Calcium is also indicated in these cases, usually in the form of the chloride, but is not of much value without parathyroid (grains 1-20). Calcium, as well as carbohydrate, hastens liver repair and also has a favorable effect on blood coagulation in cases with a hemorrhagic tendency.

Small and oft repeated blood transfusions are valuable. When blood chlorides are low 250 cc. of a 5 per cent saline solution is given intravenously. He says that he repeats this if necessary.

He also uses mild cholagogues such as sodium salicylate, magnesium sulphate or oxgall.

He believes that these measures are indicated preoperatively and postoperatively in surgical cases where there is any evidence of hepatic insufficiency even of mild grade, and especially in biliary tract operations, where some degree of liver damage is so frequent.

—LeRoy D. Long.

The Surgical Treatment of Post-Apoplectic Contractures and Jacksonian Crises (Le Traitement Chirurgicale des Contractures et des Crises Jacksoniennes Post-Apoplectiques). By G. de Morsier and R. Fischer, La Presse Medicale, January 6, 1934.

Remarking that it is not usual to consider the presence of sequelae of vascular origin as an indication for operative intracranial exploration, the authors discuss two types of cases in which it has been done.

The first is where the crises precede or accompany the softening of the brain (ramollissement cerebral). While this type is infrequent, the contention is made that it does exist, Globus and Strauss of America, and Guillain, Sorel, Riser, Ducaudray, Planques of France being cited as supporting the personal experience of the reporters. An illustrative case is that of a man who had an intense Jacksonian seizure twenty-four hours before a definite left hemiplegia which was followed by painful muscular contractions beginning in the left arm. There were some signs of increased intracranial tension. A ventriculogram seemed to indicate a tumor of right frontal lobe. Trepanation showed considerable oedema and softening of meninges and brain in relation with a vascular focus. After evacuation of the oedema

(the manner is not indicated, but presumably by drainage) the brain receded, and the patient was free from pain and crises up to death one year later.

The second type is where painful Jacksonian attacks as more or less distant sequelae of cerebral apoplexy are relieved by surgical operation, as illustrated by the case of a merchant fifty-five years of age who was operated upon over a year after the apoplexy in an effort to relieve painful contractures of arm and leg, Jacksonian seizures, total aphasia and complete helplessness. Incision of the dura mater after a bone flap on side opposite to affected arm and leg was followed by a herniation of softened meninges (apparently indicating the pia-arachnoid) from which, when incised, there escaped a large quantity of serous fluid followed by recession of the brain. The dura mater and scalp were sutured without replacing the bone flap (le volet osseux). One month later patient was able to walk with a cane, to flex the leg a l' equerre, to get up and sit down unsupported, and to go out with an attendant. There were some movements of arm and fingers. A trophic ulceration of a great toe healed rapidly. The Jacksonian seizures did not return. There was still an anarthria, but he was able to execute complicated orders, and to indicate certain wants by signs. Despondent because he was not able to speak, he committed suicide by gas asphyxiation a few months later.

Autopsy revealed gross evidences of endarteritis and thrombosis of the left middle cerebral artery and its branches, with destructive softening of the temporal and the parietal lobes; of posterior portion of frontal lobe and of the insula and the corpus striatum. There were no evidences of softening of the prefrontal area, and the occipital lobe seemed to be intact.

The authors believe that the data collected in cases reported prove that there is considerable oedema of the brain and the meninges in the neighborhood of a hemorrhage focus, and that Jacksonian seizures may be initiated by pressure and irritation produced by the oedema.

They believe that the data prove that contractures, Jacksonian seizures and aphasia might, in such cases, be more or less ameliorated by surgical intervention.

Comment: The primary vascular lesion in the average cerebral apoplexy is fairly uniform as to location and is pretty well understood. A hemorrhage in the internal capsule certainly does not invite surgical intervention.

At the same time, is it not possible that, in centering attention upon the primary lesion, we do not give sufficient value to the possible effects of the oedema which, in the natural course of the pathology, must invariably develop, to a greater or lesser extent, about the primary lesion?

I never have operated upon a patient who had the classical evidences of cerebral apoplexy, but I have the feeling that I did perform such an operation, unwittingly, some years ago. I do not have a record, but I remember the circumstances very well.

A man around sixty years of age suddenly fell down. He was found with a contusion on one side of the head and a contra-lateral hemiplegia. There was a question as to whether the hemiplegia was due to a trauma or to an apoplexy. Believing that trauma could not be excluded, the skull was opened several days later. There was a large amount of bloody serum beneath the dura. A drain was put in. There was rapid and great improvement, but not complete recovery by any means, for the arm, while more or less useful, was permanently crippled.

We must not be led astray by reports like this by de Morsier and Fischer, but we ought to think about them, and earnestly, at that.

—LeRoy Long.

A New Procedure in General Anesthesia—Basal Anesthesia by the Intravenous Injection of Paraldehyde in a Solution of Glucose (Nouveau Procede d'Anesthesie Generale. Anesthesie de Base par Injection Intravenineuse de Paraldehyde Glucosee). By I. I. Nitzescu and J. Iocobovici, Faculty of Medicine, Bucarest, La Presse Medicale, Feb. 28, 1934.

The proposition is to produce a moderate marcosis which is denominated "hypno-anesthesia" by the intravenous injection of a solution of paraldehyde in a solution of glucose, this to be supplemented, in the average case, by the administration of ether or other volatile anesthetic agent by inhalation.

By experiment on dogs, it was found that the intravenous injection of from 15 centigrams to 20 centigrams of paraldehyde per kilogram of body weight, would produce a satisfactory hypno-anesthesia, or Basal anesthesia (anesthesie de base). This is equal to less than three minims of paraldehyde per kilogram.

The paraldehyde is dissolved in a isotonic solution of glucose which is specified as being 56.6 grams to the litre. Roughly, this makes a 5 per cent solution of glucose.

The paraldehyde is added to this solution of glucose in the proportion of 6 cc. or 8 cc. per 100 cc. of the glucose solution. This solution of paraldehyde and glucose is injected at the rate of 15 cc. to 20 cc. per minute.

The total amount injected is calculated in connection with the body weight, as indicated above—that is, in such a way that only from 15 centigrams to 20 centigrams of the paraldehyde per kilogram of body weight is employed.

Experiments in animals have shown that the lethal dose of paraldehyde injected intravenously is approximately 1.8 grams per kilogram of body weight. The authors call attention to the wide margin of safety, because it appears that the lethal dose is 8 or 10 times the amount required by hypno-anesthesia.

It was found that complete surgical anesthesia lasting from one to two hours could be produced by the intravenous injection of a solution of paraldehyde in 5 per cent glucose in a strength representing .8 to one gram per kilogram of body weight, but this is not advised in the human patient.

Eighty-two cases in which the method has been employed in human patients are reported. These include appendectomies, gastro-enterostomies, as well as more simple types of surgical procedures. In each case the basal anesthesia was supplemented by ether, or some other type of anesthetic.

The claim is made that there is no irritation of tissue by the paraldehyde used in the way indicated.

Finally, it is necessary that care must be exercised in choosing pure paraldehyde, pure glucose, and in thoroughly dissolving the paraldehyde in the glucose solution by agitation before it is used.

Incidentally, the authors report satisfactory results

from the employment of the paraldehyde solution in the treatment of tetanus.

LeRoy Long, M. D.

Magnesium Content of Soils and Cancer (Terrains Magnesiens et Cancer).

According to a report by Lucien Roques published in La Presse Medicale, March 28, 1934, this subject was discussed by MM. Delbet and Robinet at a meeting of the Paris Academy of Medicine, March 20, 1934.

Referring to the conclusion of Sartory, Meyer and Keller that, in the Haut-Rhin, the Bas-Rhin and the Moselle there was no relation between the geologic structure of the ground and the number of deaths from cancer, Delbet and Robinet present figures and facts to show that such a conclusion is wrong. It would appear that a careful analysis of the data shows that there is an inverse proportion between the richness of the soil in magnesium and the frequence of cancer.

Comment: In France it is well known that for a number of years Professor Delbet has argued that magnesium is inimical to the development of cancer. This has been capitalized by one of the Paris pharmaceutical houses in the production of a preparation of magnesium to which the name "Delbase" has been given—whether with or without the sanction of the celebrated surgeon, I do not know.

—LeRoy Long, M. D.

Analytical Study of the Results of Operations on the Cervix Uteri With Special Reference to Strictures. Edward Arthur Bullard, New York City. American Journal of Obstetrics and Gynecology, May, 1934.

This author has given a rather concise but comprehensive review of the history of surgical management of diseases of the cervix. The results of his analytical study of 261 patients can be best understood by the following summary and conclusion which are quoted. It is well to add that in making this study the author sent letters to 700 patients upon whom amputations, trachelorrhaphies, or trachelo-plasties had been performed. The 261 cases who reported form the basis for this study.

Summary and conclusion are as follows:

1. A series of 261 patients operated upon by nineteen surgeons at Woman's Hospital during ten years for chronic cervicitis and lascerations, is presented for study of ultimate results.

2. For the cure of cervical leucorrhea high amputation is perfect, Sturmdorf operation excellent, low amputation very good, and trachelorrhaphy disappointing.

3. Varying degrees of cervical stenosis followed high amputation in 54 per cent of the cases, low amputation in 18 per cent, trachelorrhaphy in 12 per cent, and Sturmdorf tracheloplasty in 1.8 per cent.

4. Twenty-three out of 59 crevices repaired by high amputation were impenetrable by a probe, yet only two had obstructive dysmenorrhea. Only 2 per cent out of 59 operated upon required operative dilation later.

5. There was much less stenosis after low amputation (18 per cent); only 2 per cent obstructive dysmenorrhea. No obstructive dysmenorrhea. No obstructive dysmenorrhea after trachelorrhaphy.

6. The Sturmdorf operation gets a well-nigh perfect record of non-interference with subsequent pregnancies and labors.

7. One case of serious cervical dystocia followed a unilateral trachelorrhaphy, and this type of operation may have caused a premature labor in another; but there were nine entirely normal labors in patients who had a previous trachelorrhaphy.

8. No dystocia, no abortions followed low amputations, and there were eight normal labors; but this operation was the cause of at least one premature labor and perhaps of three others.

9. Of four pregnancies after high amputations, two terminated in premature labors and two aborted from undetermined causes, a bad record.

10. Diathermy may replace surgery in the treatment of chronic cervicitis; but only if it will eradicate the entire diseased area as dependably as a knife and show a better record in subsequent labors than the Sturmdorf operation.

11. The degree of scarring following diathermy has been sufficiently demonstrated.

Comment: The particular part of interest in this follow-up study was stricture of the cervix after operation. Such an analysis is not only of interest but considerable importance to those of us who are operating upon the cervix and should make us even more careful to observe the fundamental principles which tend to minimize this unfortunate complication of this field of surgery.

Wendell Long, M. D.

Temporary Surgical Sterilization With Subsequent Pregnancy. Albert H. Aldridge, New York. American Journal of Obstetrics and Gynecology, May, 1934, Vol. 27, note 5, page 741.

This author here describes the technic of an operative procedure which temporarily sterilizes a woman against too fertile husbands. The case is reported. She was a young woman of twenty-six, in poor physical condition, due at least in part to several abortions and the consequent loss of blood. An operation for retroversion of the uterus was indicated and at the time of abdominal operation the fimbriated ends of the tubes were mobilized and buried just beneath the peritoneal covering of the broad ligaments. Some eight years later this patient's general health had returned to normal and she had married another husband. She preferred to become pregnant. Subsequent operation was done and the fimbriated ends of the tubes removed from the peritoneal pouch. She was advised to take precautions against pregnancy for about one year's time, but soon thereafter became pregnant and was delivered at term in February, 1933.

The author discusses the various methods of technic which have been described for temporary sterilization. He concludes in the first place that a plastic operation on the tubes should be confined to the fimbric ends. The operation should entail a minimum of bleeding and disturbance of the normal relationship and nutrition of the structures involved. Healing and security of the procedure are insured by so placing the structures, in their new position, as to avoid as much tension on them as possible. With these thoughts in mind he concludes that the only logical location in which to bury the fimbriated ends is in pockets formed in the broad ligaments.

While the principal purpose of the article is a description of the technic and a report of the case,

the author also discusses briefly the possible indications for such a procedure.

Comment: Purely from the standpoint of the surgical principles involved, the technic employed, and the results obtained, this article is of considerable interest to those dealing with pelvic pathology. The possible field of the application of this operation is entirely another question.

Wendell Long.

DERMATOLOGY, X-RAY AND RADIUM THERAPY

Edited by William E. Eastland, M.D.
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Malignant Melanomas Arising in Moles. Thomas Butterworth, M. D., Reading, Pennsylvania, and Joseph V. Klauder, M. D., Philadelphia. Journal American Medical Association, Vol. 102, No. 10, March 10, 1934.

The authors call attention to the fact that clinically pigmented nevi are classified as hard or soft. The former appear as irregular, warty masses with a pedicle or broad base and contain no hair. In the soft nevi they appear as pigmented spots of variable-size or as nodular warts. They are often soft and wrinkled like raisins, and frequently contain hair. The hard lesions result in squamous cell epitheliomas when malignancy occurs, whereas the soft lesions result in malignant melanomas when they undergo malignancy.

The malignant melanomas that are derived from moles are classified histologically as: first, melanocarcinoma; second, melanosarcoma; third, melanoendothelioma; and fourth, perithelioma. The transition of a benign mole to a malignant one may occur any time between six months and eighty-four years of age; however, the authors' series of fifty cases averaged forty-nine years of age. The preponderance is in the male sex and is essentially a disease of the white race. Certain sites are subject to these melanomas, as for example the fifty cases seen by the authors are as follows: face, 7; neck, 4; trunk, 13; arms, 6; buttocks, thighs and legs, 10; feet, 8; penis, 1; and perineum, 1.

In considering the role of trauma it is shown by statistics that trauma is a definite etiological factor. The symptoms by which the transition from the benign to the malignant stage can be noted are as follows: first, increase in size is usually the first symptom; second, increase in pigmentation, about the same as (1); third, bleeding frequently occurs but usually some months later; fourth, superficial ulceration with a hemorrhagic crust. The increase in size may be in part or the entire lesion. Satellite nodules at the periphery a short distance from the large lesion may occur. A persistent fact is noted by calling attention to lesions in which there is a fungating or large mass present. In that event metastases are late. The converse is true; in other words, the authors stated "it appears that a malignant growth is expended outward as excessive growth, or inward as metastasis."

In regard to pigmentation, an increase presenting a coal black appearance is the rule and is a striking symptom of a malignant melanoma. The bleeding occurs in the form of oozing as a rule. It is unnecessary for a lesion to have a history of a birthmark or a pigmented condition, although it usually occurs. The late symptom of malignant development is enlargement of the regional lymph nodes. Metastases occur first, locally or by direct extension; second, by the lymphatics to the regional lymph glands; third, by the invasion into the blood stream. Cutting into a suspected malignant melanoma for historical examination is dangerous and should not be done unless the entire lesion is to be destroyed or removed.

In reviewing the various treatments used, the authors call attention to the greater incidence or recurrences after all forms of removal. They state that in accordance with the experience of Farrell the expectancy of life is shorter after surgical excision of the lymph nodes than after intensive roentgen therapy. In their opinion, neither surgery nor radiotherapy alone is the method of choice, but a combination of such treatment. Inasmuch as the lymphatic structure has been found involved three centimeters beyond the borders of the lesion, excision should include at least this much tissue or more. They favor electro-surgery and it should be carried deep enough to include the fascial covering of the muscle. Following this procedure, heavy filtered x-ray should be applied as soon as possible to the operative site and the draining lymphatic areas. The essayists question the advisability of the surgical removal of the original lymph nodes, and in case this is done, preoperative radiation should be carried out. They favor amputation of any part that anatomical structure allows. In considering the prognosis, attention is called to the fact that generalized metastases occurred in an average of twenty-five months in the authors' series. The majority of patients die within three years after malignancy occurs.

Many pigmented lesions on the skin are common, whereas, the incidence of malignant melanomas is uncommon, as emphasized by a study of 18,113 cadavers having 2274 malignant tumors on them with an incidence of .89 per cent melanotic; therefore, the routine removal of these pigmented lesions as a preventive measure is impractical. In those lesions especially suspicious looking and repeatedly subject to irritation, removal is advisable.

The article is summed up by a very pertinent and wise remark, as follows: "Thorough destruction, including healthy tissue surrounding the lesion and beneath it, by means of the electrocautery, electrodesiccation or surgical excision, affords the safest means of removing pigmented nevi. The nevus should be entirely destroyed in one operation. To treat these lesions by painting with acids, by applying carbon dioxide snow, by electrolysis, strangulation by tying a string around a pedunculated lesion, or any treatment given at short intervals, are dangerous procedures which constitute irritation and afford opportunity for malignant change. In propaganda for the control of cancer, this principle cannot too strongly be emphasized."

Treatment of Postarsphenamine Dermatitis. Loren W. Shaffer, M. D., Detroit. Archives of Dermatology and Syphilology, Vol. 29, No. 2, February, 1934.

After delving into various theories about the mode of action that results in dermatitis incident to arsphenamine, Shaffer then proceeds into the method of prevention of arsphenamine dermatitis. He calls attention to the well-known but neglected state of itching and erythema which are the early signs of an on-coming dermatitis. By cessation of further arsphenamine treatment at that time and the administration of sodium thiosulphate in adequate doses an accident to the skin is prevented.

Where a case of this kind has developed the au-

thor goes into the various types of therapy that are now recognized as the most efficacious. He gives various authorities' opinions on these drugs. The first consideration as a therapeutic agent is that of sodium thiosulphate. In this summation he brings to light that although the former opinion was that the drug was a specific for arsphenamine dermatitis it is now considerably short of being such. His opinion is that one gram of the freshly prepared solution should be given intravenously daily for three to six doses, and that delayed administration greatly deters the physician in obtaining satisfactory results.

Liver therapy is now considered, and is used on account of the hepatic insufficiency which may be due either to the disease or to the drug. The administration of five or ten cc. of liver extract intramuscularly three times a week was advised by Spiethoff. Not only is this drug valuable as an active agent against a developing case of dermatitis, but works well in a threatened disaster of the skin.

Calcium thiosulphate is then discussed. According to the principles observed in Germany, saturated doses of calcium gluconate are emphasized; for example, three injections intravenously daily of ten cc. of a ten per cent calcium gluconate solution, and three such injections intramuscularly and two tablespoonfuls of the powder in the water by mouth three times daily for three days, after which it is given by mouth alone. Shaffer has not experienced such treatment, but he declares there is a milder type of therapy, such as ten cc. intravenously and ten cc. intramuscularly and one or two tablespoonfuls three times daily by mouth.

Dextrose is next considered. The theory of its action is that a decreased amount of glycogen exposes the liver cells to the toxic effect of arsenic and that the administration of dextrose accelerates the elimination of arsenic. Usually in severe cases considerable edema is present. This is greatly overcome by a hypertonic solution of dextrose. The author proposes the administration of fifty cc. of a fifty per cent solution of dextrose intravenously for some three to five days at the onset of the dermatitis. He also discusses the use of dextrose in diluted solutions employed as a diluent for arsphenamine injections in the regular administration of the drug. In the City Hospital of Detroit the author was able to shorten the stay of arsenical dermatitis cases to about eight days, which is of considerable importance due to the economic conditions of the present day. In a general comment the idea is given that the use of sodium thiosulphate alone in the treatment of this condition is entirely adequate, and that the administration of the various other drugs as mentioned above is definitely indicated.

BOOK REVIEWS

New and Nonofficial Remedies, 1934, containing description of the articles which stood accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1934. Price, Postpaid, $1.50. Pp. 510; lx. Chicago: American Medical Association.

New and Nonofficial Remedies, 1934, has the same pleasing format and helpful mechanism that has characterized it in past years. The enrichment of the index started a few years ago is continued and its value even increased by some desirable simplification of cross references.

The Council has made the usual careful revision of the book. The general article Lactic Acid-Producing Organisms and Preparations has been practically rewritten. The chapter on Arsenic preparations has undergone some revision, especially in the statement concerning Neoarsphenamine. The descriptions of Chiniofon and Vioform have been revised in the light of recent developments in the treatment of amebiasis. The article on Ethylhydrocupreine has been revised to delete references to Optochin Base, which has been omitted; Optochin Hydrochloride has been retained, being recommended only for external use. The description of Typhoid Vaccine has been revised to give the dosage of the combination of typhoid and paratyphoid organisms and to mention the use of typhoid vaccine in nonspecific protein therapy. A number of revisions of the Council's Rules have been made, particularly with reference to the names of products, which is one of the most frequent and troublesome of the problems with which the Council has to deal. Comparison with last year's volume will show that revisions of more or less importance occur in many other chapters.

Among the preparations newly included in this volume are: Aminophylline, a double salt or mixture of theophylline and ethylenediamine, with the advantage of greater solubility over other theophylline preparations; the new alum precipitated diphtheria toxoid; Neo-Iopax, a new medium for intravenous urography; Benzedrine, an ephedrine substitute; serums containing type II pneumococcus antibodies, which the Council has recently recognized as worthy of clinical trial in view of improved preparations and technic; Autolyzed Liver Concentrate and Extralin, two new liver preparations for use in the treatment of pernicious anemia; Metycaine, a new local anesthetic; and Sodium Morrhuate, a salt of the fatty acids of cod liver oil, proposed for use as a sclerosing agent.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1933. Cloth. Price, Postpaid $1.00. Pp. 188. Chicago: American Medical Association.

The main bulk of the volume, which is, incidentally, considerably increased over that of recent annual volumes, is taken up with reports on products which the Council has found unacceptable for inclusion in New and Nonofficial Remedies. Of special note are: The report on Alpha-Lobelin, a drug upon which the Council in 1927 issued a preliminary report but which is now found not to have established itself as a respiratory stimulant of as great usefulness as carbon dioxide and oxygen; the report on a number of preparations marketed by the Upjohn Company with unwarranted, misleading and unscientific claims; the report on Clavipurin, a preparation of the alkaloids of ergot, marketed without adequate declaration of the composition and without adequate standardization under a nondescriptive proprietary name with unwarranted therapeutic claims; the report on Diampysal, another pyridine derivative proposed for use in bacterial infections, convincing evidence for the therapeutic value of which is lacking; the report on Euphydigital, an irrational mixture of digitalis and a theophylline preparation marketed under an uninforming, proprietary name, with exaggerated and unwarranted claims for its therapeutic value; the report on Guphen, stated to be the guaiacol ester of phenylcinchoninic acid, marketed with unwarranted therapeutic claims under an uninforming, proprietary name and having no proved advantage over its constituents administered separately; the report on Niazo, a pyridine compound of unsubstantiated value as a urinary antiseptic; the re-

port on Omnadin, a preparation recognized for use for nonspecific lipoprotein therapy practically as a cure-all; and the report on a group of endocrine preparations of the Rovin Laboratories variously unacceptable as being of indefinite composition and of undemonstrated therapeutic value.

A feature of marked current interest in this volume is the preliminary report on Alpha-Dinitrophenol, the new drug for acceleration of cellular metabolism. The Council voices a warning on the dangers attending the use of this drug; this warning has been increasingly justified in reports of fatalities since the appearance of the Council's report in July of last year. Other preliminary reports which make this volume one of the most interesting issued by the Council in recent years are those on Dilaudid, a new narcotic drug related to morphine; Fuadin, a new antimony compound for use in the treatment of bilharziasis and granuloma inguinale; and Hippuran, a new product for intravenous and oral urography. The comprehensive and definite special report on estrogenic substances furnishes a much needed review of the present status of such products in gynecologic therapy. The Council insists upon the doctrine that basic laboratory investigation of these substances should precede clinical use. Of interest to hospital authorities, especially in connection with the book Hospital Practice for Interns recently issued by the Council in collaboration with the Council on Medical Education and Hospitals, is the special report, The Hospital Formulary, by Hatcher and Stainsby of New York. It outlines a plan characterized by the highest regard for the principles of rational drug therapy. Of more general interest is the Council's second report on the intravenous use of barbital compounds which is the result of a questionnaire sent to representative physicians. In view of the answers to the questionnaire, the Council reaffirmed its previous decision concerning the limitations of intravenous use of barbital compounds; namely, that these preparations should be administered intravenously only in a limited number of conditions in which administration by other routes is not feasible. The report carefully details these conditions. The lengthy report on the omission of Pyridium is an outstanding example of the meticulous fairness characteristic of the Council's treatment of the manufacturers of commercial preparations. In connection with the omission of Pyridium should be noted the report which declares Azophene (Mallophene) not acceptable. This product has been shown to be identical with Pyridium and the Council considers the claims for its usefulness as a local, general, or urinary antiseptic as unwarranted, as are those for Pyridium.

CONTAGION AS A FACTOR IN CERTAIN HEART AND JOINT DISEASES

John J. Carden, San Francisco (Journal A. M. A., March 17, 1934), reports nine cardiac and rheumatoid arthritic cases that occurred in one family group. In this group, only one patient has a definite and constant focus of infection. Since June, 1930, from which time this focus of infection has been better drained and varying members of the group have come into more intimate contact with this patient, four have died of cardiac disease, one is practically bedridden with cardiac disease, two are up but with serious cardiac conditions, one is still able to work but has a pronounced cardiac lesion, and seven have had varying attacks of rheumatoid arthritis. Furthermore, when the patient having the definite and constant focus of infection is away or in bed, all the others show marked improvement until her return. The author believes that in rheumatoid arthritis, (1) the causative focus of infection in certain cases is not in the individual but in some other member of the family group; (2) treatment in these cases is ineffective unless the patient is removed from contact with this group member, and (3) a prolonged contact with a focus of infection in another is necessary before symptoms ensue. In certain types of endocarditis and myocarditis, (1) there is a definite contagious factor; (2) this factor may be in a focus of infection in another member of the family group and (3) effective treatment requires isolation from this infected group member.

SPLENECTOMY IN CHRONIC ARTHRITIS ASSOCIATED WITH SPLENOMEGALY AND LEUKOPENIA (FELTY'S SYNODROME)

Erle B. Craven, Jr., Durham, N. C. (Journal A. M. A., March 17, 1934), relates a case that came under his observation, corresponding in essential details with the cases reported by Felty in 1924 and the case reported by Hanrahan and Miller in 1933, that was characterized by chronic arthritis, splenomegaly and leukopenia. There was an apparently temporary effect of splenectomy, first performed in this syndrome by Hanrahan and Miller. The gross and microscopic appearance of the spleen removed from the patient was similar to the picture described by Hanrahan and Miller. A persistent, although variable, eosinophilia occurred and small groups of eosinophils were observed in the splenic pulp. In Felty's original description, two of his three cases in which differential counts were reported exhibited an eosinophilia. In the cases reported in the literature there is not uncommonly an association of neutrophenia and eosinophilia with chronic arthritis and of eosinophilia with splenomegaly. There was a diminished sugar tolerance or delayed sugar removal.

DELAYED APPEARANCE OF DEFORMITY IN VERTEBRAL BODY FRACTURES

O. O. Feaster, St. Petersburg, Fla. (Journal A. M. A., Feb. 24, 1934), calls attention to a class of spinal injuries—compression fractures of the vertebral bodies—which show no evidence of fracture deformity when roentgenograms are made immediately after the injury but on subsequent study ten days or more later do show a recognizable deformity in the lateral silhouette. It is probable that many, if not all, of the cases of so-called Kummell's disease belong to this class of injury; that is, compression fractures not recognized at the time of injury and probably not studied again until the diagnosis of Krummell's disease is made. It is seriously doubted that Krummell's disease should be considered a disease entity. A most striking thing in the study of a number of reports of vertebral body compression fractures is the surprisingly slight degree of trauma that may be responsible. One should always bear in mind that the injury is frequently at a much higher level than the pain. Two patients have been seen, each with both the eleventh dorsal and the first lumbar vertebral bodies fractured, of whom the surgeon requested a study of the sacro-iliac region, and quite naturally, for there was no discomfort elsewhere. It is, of course, superfluous to mention that no roentgen examination of the spine is complete that does not include a lateral view; in fact, this is usually the only film of definite value.

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Schwab, C. B.	Sapulpa
Sisler, Frank H.	Bristow
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Lamb, Lealon ..... Clinton
Loyd, E. M. ..... Taloga
McBurney, C. H. ..... Clinton
Parker, O. H. ..... Custer
Rogers, McClain ..... Clinton
Rolle, Neeson ..... Custer
Ruhl, N. E. ..... Weatherford
Seba, W. E. ..... Leedy
Williams, Gordon D. ..... Weatherford
Wilson, H. H. ..... Clinton
Vieregg, Frank R. ..... Clinton

GARFIELD

Aitken, W. A. ..... Enid
Baker, R. C. ..... Enid
Bitting, B. T. ..... Enid
Cotton, Lee W. ..... Enid
Duffy, Francis M. ..... Enid
Field, Julian ..... Enid
Francisco, Glenn ..... Enid
Francisco, J. W. ..... Enid
Gregg, O. R. ..... Enid
Hamble, V. R. ..... Enid
Harris, D. S. ..... Drummond
Hartman, G. A. ..... Sharon, Pa.
Hinson, Bruce R. ..... Enid
Hinson, T. B. ..... Enid
Hopkins, P. W. ..... Enid
Hudson, F. A. ..... Enid
Hudson, H. H. ..... Enid
Jacobs, Raymond G. ..... Enid
Kendall, W. L. ..... Enid
Kiebler, W. G. ..... Enid
Lamerton, W. E. ..... Enid
Mayberry, S. N. ..... Enid
McEvoy, S. H. ..... Enid
McInnis, A. L. ..... Enid
Moore, J. W. ..... 2617 S. Robinson, Oklahoma City
Newell, W. B. ..... Enid
Neilson, W. P. ..... Enid
Piper, A. S. ..... Enid
Rhodes, W. H. ..... Enid
Roberts, D. A. ..... Mountain View
Roberts, D. D. ..... Enid
Shannon, H. R. ..... Enid
Sheets, Marion ..... Enid
Swank, J. R. ..... Enid
Vandever, H. F. ..... Enid
Walker, John R. ..... Enid
Watson, J. M. ..... Enid
Wigner, R. W. ..... Enid
Wilkins, A. E. ..... Covington
Wolf, E. J. ..... Waukomis

GARVIN

Alexander, Robt. M. ..... Paoli
Callaway, John R. ..... Pauls Valley
Greening, W. P. ..... Pauls Valley
Gross, T. F. ..... Lindsay
Johnson, G. L. ..... Pauls Valley
Lindsey, N. H. ..... Pauls Valley
Lindsey, R. H. ..... Pauls Valley
Monroe, Hugh H. ..... Lindsay
Pratt, Chas. M. ..... Lindsay
Robberson, Marvin E. ..... Wynnewood
Shi, A. H. ..... Stratford
Sullivan, Cleve L. ..... Elmore City
Taylor, E. H. ..... Maysville
Walker, Thomas ..... Wynnewood
Wilson, H. P. ..... Wynnewood

GRADY

Antle, H. C. ..... Chickasha
Ambrister, J. C. ..... Chickasha
Barry, W. R. ..... Alex
Baze, Walter J. ..... Chickasha
Bledsoe, Martha ..... Chickasha
Bonnell, W. L. ..... Chickasha
Boon, U. S. ..... Chickasha
Cook, W. H. ..... Chickasha
Cox, C. P. ..... Ninnekah
Dawson, E. L. ..... Chickasha
Downey, D. S. ..... Chickasha
Emanuel, L. E. ..... Chickasha
Emanuel, Roy E. ..... Chickasha
Gerard, G. R. ..... Chickasha
Hampton, P. J. ..... Rush Springs
Henning, A. E. ..... Tuttle
Hume, R. ..... Minco
Leeds, A. B. ..... Chickasha
Little, A. C. ..... Minco
Livermore, W. H. ..... Chickasha
Mason, Rebecca ..... Chickasha
McClure, H. M. ..... Chickasha
Mitchell, C. P. ..... Chickasha
Nunnery, A. W. ..... Chickasha
Pyle, Oscar S. ..... Chickasha
Renegar, J. F. ..... Tuttle
Woods, L. E. ..... Chickasha

GRANT

Hardy, I. V. ..... Medford
Lawson, E. E. ..... Medford

GREER

Austin, C. W. ..... Mangum
Border, G. F. ..... Mangum
Chambers, M. E. ..... Vinson
Cherry, G. P. ..... Mangum
Dodson, W. O. ..... Willow
Hollis, J. B. ..... Mangum
Lansden, J. B. ..... Granite
Lowe, J. T. ..... Mangum
Meredith, J. S. ..... Duke
McGregor, F. H. ..... Mangum
Nelson, J. H. ..... Granite
Pearson, L. E. ..... Mangum
Poer, E. M. ..... Mangum

HARMON

Hopkins, Samuel W. ..... Hollis
Husband, Wm. G. ..... Hollis
Jones, James E. ..... Hollis
Lynch, Russell H. ..... Hollis
Ray, W. T. ..... Gould
Yeargan, Wm. M. ..... Hollis

HASKELL

Hill, Arthur T. ..... Stigler
Rumley, Jas. C. ..... Stigler
Terrell, Ross F. ..... Stigler
Thompson, Wm. A. ..... Stigler
Turner, Thos. Boyd ..... Stigler
Williams, N. K. ..... McCurtain

HUGHES

Bentley, A. A. — Allen
Butts, A. M. — Holdenville
Davenport, A. L. — Holdenville
Diggs, G. W. — Wetumka
Felix, T. B. — Holdenville
Floyd, W. E. — Holdenville
Ford, R. B — Holdenville
Frey, Harry — Holdenville
Hamilton, S. H. — Non
Hemphill, J. A. — Wetumka
Hicks, C. A. — Wetumka
Mattison, W. L. — Calvin
Morgan, W. G. — Holdenville
Morris, R. D. — Allen
Taylor, W. L. — Holdenville
Wallace, C. S. — Holdenville

JACKSON

Abernethy, E. A. — Altus
Allgood, John — Altus
Bird, Jessie — Eldorado
Brown, R. F. — Altus
Collier, E. K. — Tipton
Crow, E. S. — Olustee
Ensey, J. E. — Altus
Fox, R. H. — Altus
Hix, J. B. — Altus
Mabry, E. W. — Altus
McConnell, L. H. — Altus
Reid, J. R. — Altus
Rudell, W. P. — Altus
Spears, C. G. — Altus
Stults, J. S. — Altus
Taylor, R. Z. — Blair

JEFFERSON

Andrewskoski, W. T. — Ryan
Browning, W. M. — Waurika
Burgess, W. C. — Ringling
Collins, D. B. — Waurika
Derr, J. I. — Waurika
Edwards, F. M. — Ringling
Hollingsworth, J. I. — Waurika
Maupin, C. M. — Waurika
McPherson, J. M. — Terrell
Mingus, F. M. — Loco
Wade, L. L. — Ryan
Watson, J. W. — Ryan

JOHNSON

Clark, Guy — Milburn
Looney, J. T. — Tishomingo

KAY

Armstrong, W. O. — Ponca City
Arrendell, C. W. — Ponca City
Beatty, J. H. — Tonkawa
Becker, L. H. — Blackwell
Berry, G. L. — Blackwell
Brown, Howard S. — Ponca City
Clift, M. C. — Blackwell
Denham, T. W. — Three Sands
Edmonds, R. L. — Blackwell
Gibson, R. B. — Ponca City
Gordon, D. M. — Ponca City
Gowey, H. O. — Newkirk
Hawkins, J. C. — Blackwell
Howe, J. H. — Ponca City
Hudson, J. O. — Braman
Leslie, W. M. — Blackwell
Matthews, Dewey — Tonkawa
McElroy, Thos. — Ponca City
Miller, D. W. — Blackwell
Moore, G. C. — Ponca City
Morgan, L. S. — Ponca City
Neal, L. G. — Ponca City
Nichols, A. S. — Ponca City
Niemann, Geo. H. — Ponca City
Northcutt, C. E. — Ponca City
Obermiller, R. G. — Ponca City
Risser, A. S. — Blackwell
Staley, P. A. — Ponca City
Vance, L. C. — Ponca City
Waggoner, E. E. — Tonkawa
Wagner, J. C. — Ponca City
Walker, I. D — Tonkawa
Werner, J. W. — Newkirk
White, M. S. — Blackwell

KINGFISHER

Cavett, E. R. — Loyal
Dixon, A. — Hennessey
Hodgson, C. M. — Kingfisher
Scott, Frank — Kingfisher
Townsend, B. I. — Hennessey

KIOWA

Adams, J. L. — Hobart
Bonham, J. M. — Hobart
Braun, J. P. — Hobart
Britt, H. A. — Snyder
Bryce, J. R. — Snyder
Finch, J. Wm. — Sentinel
Gray, Melvin — Mountain View
Hathaway, A. H. — Mountain View
Land, J. A. — Hobart
Lloyd, H. C. — Hobart
Martin, F. F. — Roosevelt
McIlwain, Wm. — Lone Wolf
Miller, W. W. — Gotebo
Moore, J. H. — Hobart
Preston, C. R. — Mountain Park
Ritter, J. M. — Roosevelt
Walker, F. E. — Lone Wolf
Watkins, B. H. — Hobart
Wilkerson, J. M. — Hobart
Winter, J. D. — Hobart

LATIMER

Evins, E. L. — Wilburton
Hamilton, E. B. — Wilburton
Harris, J. M. — Wilburton
Henry, T. L. — Wilburton
Rich, R. L. — Red Oak

LEFLORE

Baker, F. P. — Talihina
Bevill, S. D. — Poteau
Booth, G. R. — LeFlore
Collins, E. L. — Panama
Dean, S. C. — Howe
Duff, W. M. — Braden
Gillian, W. C. — Spiro
Hardy, Harrell — Poteau
Hartshorn, G. E. — Spiro
Head, W. M. — Talihina
Hunt, W. J. — Poteau
Minor, R. M. — Williams
Rosborough, Wm. D. — Talihina
Shippey, W. L. — Wister
Wright, R. L. — Poteau

LINCOLN

Adams, J. W. — Chandler
Anderson, W. D. — Stroud
Brown, F. C. — Sparks
Burleson, Ned — Prague

Dorrell, G. B. — Chandler
Erwin, Para F. — Wellston
Hemphill, C. H. — Prague
Jenkins, H. B. — Tryon
Marshall, A. M. — Chandler
Nickel, U. E. — Davenport
Norwood, F. H. — Prague
Robertson, C. W. — Chandler
Rollins, J. S. — Prague
Sosbee, J. W. — Stroud

LOGAN

Allen, Robert — Guthrie
Barker, Chas. B. — Guthrie
Barker, E. O. — Guthrie
Barker, Pauline — Guthrie
Childers, A. G. T. — Mulhall
Cornwell, N. L. — Coyle
First, F. R. — Crescent
Gardner, P. B. — Marshall
Goodrich, E. E. — Crescent
Gray, Dan — Guthrie
Hahn, L. A. — Guthrie
Hill, C. B. — Guthrie
Larkin, H. W. — Minco
LeHew, J. Leslie — Guthrie
Miller, Wm. C. — Guthrie
Petty, C. S. — Guthrie
Ringrose, R. F. — Guthrie
Ritzhaupt, Louis H. — Guthrie
Souter, J. E. — Guthrie
Trigg, F. E. — Guthrie
West, Alva A. — Guthrie

MAJOR

Specht, Elsie L. — Fairview

MARSHALL

Holland, John L. — Madill
Logan, J. H. — Lebanon
Robinson, P. F. — Madill
Veazey, J. H. — Madill

MAYES

Adams, Sylba, Hayward Indian Hosp., Hayward, Ind.
Bryant, W. C. — Choteau
Hollingsworth, J. E. — Strong
Morrow, B. L. — Salina
Puckett, Carl — 22 W. Sixth St., Oklahoma City
Spurgeon, J. H. — Locust Grove
Walker, Russell H. — Pryor
Whitaker, Wm. J. — Pryor
White, L. C. — Adair

McCLAIN

Barger, G. S. — Purcell
Dawson, O. O. — Wayne
Kolb, I. N. — Blanchard
McCurdy, W. C. — Purcell
Royster, R. L. — Purcell
Slover, B. W. — Blanchard

McCURTAIN

Barker, N. L. — Broken Bow
Hall, Lyman S. — Broken Bow
Lokey, J. P. — Idabel
Moreland, J. T. — Idabel
Moreland, W. A. — Idabel
Sherrill, R. H. — Broken Bow
Williams, R. D. — Broken Bow

McINTOSH

Jacobs, L. I. — Hanna
Lee, N. P. — Checotah
Little, D. E. — Eufaula
Marshall, J. C. — Checotah
Smith, F. L. — Eufaula
Tolleson, W. A. — Eufaula
West, G. W. — Eufaula

MURRAY

Anadown, P. V. — Sulphur
Bailey, H. C. — Sulphur
Brown, Byron B. — Davis
Luster, J. C. — Davis
Powell, W. H. — Sulphur
Sadler, F. E. — Sulphur
Slover, Geo. — Sulphur

MUSKOGEE

Ballance, R. A. — Webbers Falls
Ballantine, H. T. — Surety Bulg.
Berry, W. D. — Barnes Bldg.
Blakemore, J. L. — Barnes Bldg.
Bruton, L. D. — Barnes Bldg.
Burns, H. C. — Warner
Campbell, J. F. — Barnes Bldg.
DeGroot, C. E. — Manhattan Bldg.
Donnell, R. N. — 626 North E
Dorwart, F. G. — Barnes Bldg.
Duckett, B. J. — Braggs
Earnest, A. N. — Barnes Bldg.
Everly, A. W. — Equity Bldg.
Ewing, Finis W. — Surety Bldg.
Fite, E. H. — Barnes Bldg.
Fite, W. P. — Barnes Bldg.
Fryer, S. J. — Surety Bldg.
Fullenwider, C. M. — Barnes Bldg.
Graves, G. B. — Boynton
Hamm, S. G. — Haskell
Heitzman, C. W. — Barnes Bldg.
Holcombe, R. Nowlin — Surety Bldg.
Joblin, W. R. — Porter
Kane, Bernard E. — Haskell
Keith, Emma — Miami
King, F. S. — Surety Bldg.
Klass, O. C. — Surety Bldg.
Kupka, John F. — Haskell
McAlister, L. S. — Barnes Bldg.
Mobley, A. L., Vet. Hosp., Albuquerque, New Mex.
Neely, S. D. — Commercial Nat'l Bldg.
Newhauser, Mayes — Vet. Hospital
Nichols, J. T. — Equity Bldg.
Oldham, I. B. Jr. — 426 N. 6th
Oldham, I. B. Sr. — 426 N. 6th
Osgood, W. W. — Equity Bldg.
Rafter, J. G. — Manhattan Bldg.
Reynolds, John — 1st Nat'l Bldg.
Rice, C. V. — Barnes Bldg.
Scott, H. A. — Surety Bldg.
Shackelford, T. T. — Haskell
Thomas, L. M. — Webbers Falls
Thompson, M. K. — Surety Bldg.
Walton, F. L. — Surety Bldg.
Waterfield, F. E. — Commercial Nat'l Bldg.
Wallis, G. C. — Fort Gibson
White, Chas. E. — N. 6th Street
White, J. Hutchings — Surety Bldg.
Wilkiemeyer, F. J. — Vet. Hospital
Wolfe, Ira C. — 426 N. 6th

NOBLE

Cavitt, R. A. — Morrison
Cooke, C. H. — Perry
Evans, A. M. — Perry
Francis, J. W. — Perry
Owen, B. A. — Perry
Renfrow, T. F. — Billings

NOWATA

Lang, S. A. ..... Nowata
Prentiss, H. M. ..... Nowata
Prentiss, M. B. ..... Nowata
Roberts, S. P. ..... Nowata
Scott, M. B. ..... Delaware
Sudderth, J. P. ..... Nowata

OKFUSKEE

Adams, A. C. ..... Weleetka
Bloss, C. M. ..... Okemah
Bombarger, C. C. ..... Paden
Brice, M. O. ..... Okemah
Cochran, C. M. ..... Okemah
Dovell, John C. ..... Paden
Jenkins, W. P. ..... Okemah
Kennedy, J. A. ..... Okemah
Keyes, R. ..... Okemah
Lucas, A. C. ..... Castle
Melton, A. S. ..... Okemah
Moyse, J. L. ..... Okemah
Pemberton, J. M. ..... 217½ W. Commerce, Okla. City
Preston, J. R. ..... Weleetka
Spickard, L. J. ..... Okemah

OKLAHOMA

Adams, Robert H. ..... 1211 Ramsey Tower
Akin, R. H. ..... 400 West 10th
Alford, J. M. ..... Medical Arts Bldg.
Allen, E. P. ..... 1200 No. Walker
Andrews, Lelia E. ..... 1200 No. Walker
Arrington, C. T. ..... 805 No. Walnut
Bailey, F. M. ..... 1219 West 21st
Bailey, W. H. ..... 301 West 12th
Balyeat, Ray M. ..... 1200 No. Walker
Barker, C. E. ..... 1200 No. Walker
Batchelor, J. J. ..... Medical Arts Bldg.
Bates, C. E. ..... Federal Bldg.
Beyer, M. R. ..... 2006 West 39th
Binkley, J. G. ..... Medical Arts Bldg.
Boatright, Lloyd C. ..... Medical Arts Bldg.
Boggs, Nathan ..... Perrine Bldg.
Bolend, Floyd J. ..... 1200 No. Walker
Bolend, Rex ..... Medical Arts Bldg.
Bondurant, C. P. ..... Medical Arts Bldg.
Bonham, W. L. ..... Medical Arts Bldg.
Borecky, Geo. L. ..... Ramsey Tower
Bowen, Ralph ..... 1200 No. Walker
Bradley, H. C. ..... Perrine Bldg.
Branham, D. W. ..... 301 West 12th
Brewer, A. M. ..... Perrine Bldg.
Brown, Chas. P. ..... Perrine Bldg.
Brown, Gerster W. ..... Medical Arts Bldg.
Brundage, C. I. ..... 1200 No. Walker
Buchanan, T. A. ..... Amer. Nat'l Bldg.
Bulla, Gordon C. ..... 400 West 10th
Burton, John F. ..... 1200 No. Walker
Butler, H. W. ..... 1200 No. Walker
Cailey, Leo F. ..... Medical Arts Bldg.
Campbell, Coyne H. ..... Medical Arts Bldg.
Canada, J. C. ..... 217½ West Commerce
Cates, Albert ..... Medical Arts Bldg.
Caviness, J. J. ..... 1200 No. Walker
Charney, I. H. ..... Medical Arts Bldg.
Chase, A. B. ..... Colcord Bldg.
Christian, Paul C. ..... Federal Bldg.
Clark, Fred ..... Enid
Cloudman, H. H. ..... Medical Arts Bldg.
Clymer, Cyril E. ..... Medical Arts Bldg.
Coley, A. J. ..... Medical Arts Bldg.
Collins, H. D. ..... Medical Arts Bldg.
Cooper, F. M. ..... Medical Arts Bldg.
Cunningham, S. R. ..... Medical Arts Bldg.
Daily, Henry J. ..... Medical Arts Bldg.
Daniels, Harry A. ..... Colcord Bldg.
Davis, C. E. ..... Medical Arts Bldg.
Davis, E. P. ..... 918 N. W. 23rd
DeMand, F. A. ..... 1200 No. Walker
Dersch, W. H. ..... Medical Arts Bldg.
Dickson, Green K. ..... 1200 No. Walker
Dill, Francis E. ..... Medical Arts Bldg.
Dougherty, Virgil ..... Gorei, Abyssinia, Africa
Dowdy, T. W. ..... Medical Arts Bldg.
Duncan, Darrell G. ..... Medical Arts Bldg.
Early, R. O. ..... Medical Arts Bldg.
Eastland, W. E. ..... Medical Arts Bldg.
Eley, N. Price ..... 400 West 10th
Emenhiser, Lee K. ..... 801 East 13th
Erwin, F. B. ..... Medical Arts Bldg.
Eskridge, J. B. ..... 1200 No. Walker
Fagin, Herman ..... 1200 No. Walker
Faris, Brunel D. ..... Wesley Memorial Hosp., Chicago
Ferguson, E. Gordon ..... Medical Arts Bldg.
Ferguson, E. S. ..... Medical Arts Bldg.
Field, C. H. ..... Medical Arts Bldg.
Fishman, C. J. ..... 132 West 4th
Fitz, R. G. ..... Taming Fu Hoppi, Providence No. China
Flesher, J. H. ..... Edmond
Frierson, S. E. ..... Medical Arts Bldg.
Fulton, C. C. ..... Medical Arts Bldg.
Fulton, George ..... Amer. Nat'l Bldg.
Garrison, Geo. H. ..... 1200 No. Walker
Gee, O. J. ..... Medical Arts Bldg.
Gibbs, Allen H. ..... Ramsey Tower
Glomset, John L. ..... 1200 No. Walker
Goldfain, E. ..... 717 No. Robinson
Goodwin, R. Q. ..... Medical Arts Bldg.
Graening, P. K. ..... 1st Nat'l Bldg.
Gray, Floyd ..... 1200 No. Walker
Gregory, M. S. ..... 2209 West 22nd
Guthrie, Austin L. ..... 1200 No. Walker
Hall, Clark H. ..... Medical Arts Bldg.
Hammonds, O. O. ..... Medical Arts Bldg.
Haney, A. H. ..... Medical Arts Bldg.
Harbison, Frank ..... Terminal Bldg.
Harbison, J. E. ..... Terminal Bldg.
Harris, Henry W. ..... 1200 No. Walker
Haskett, Paul E. ..... Hales Bldg.
Hatchett, J. A. ..... Medical Arts Bldg.
Hayes, B. A. ..... 1200 No. Walker
Hazel, Onis ..... 400 West 10th
Heatley, J. E. ..... Medical Arts Bldg.
Hetherington, A. J. ..... 2014 Gatewood Ave.
Hicks, Fred B. ..... Medical Arts Bldg.
Hirshfield, A. C. ..... Medical Arts Bldg.
Hood, F. Redding ..... 1200 No. Walker
Holliday, J. R. ..... 1200 No. Walker
Howard, R. M. ..... 1200 No. Walker
Hyroop, Gilbert L. ..... Medical Arts Bldg.
Jacobs, Minard F. ..... Medical Arts Bldg.
Janco, Leon ..... 10 West Park
Jeter, H. G. ..... 1200 No. Walker
Jolly, W. J. ..... 614 West 14th
Jones, Hugh C. ..... Medical Arts Bldg.
Kahle, C. E. ..... 1738 NW 16th
Keller, W. F. ..... Medical Arts Bldg.
Kelly, John F. ..... 301 West 12th
Kelso, J. W. ..... Medical Arts Bldg.
Keltz, Bert F. ..... Medical Arts Bldg.
Kernodle, S. E. ..... 119 West 5th
Kimball, Geo. H. ..... Ramsey Tower
Kuchar, V. ..... 1210 West 17th
Kuhn, J. F. ..... Medical Arts Bldg.
Lain, E. S. ..... Medical Arts Bldg.
Lamb, John H. ..... Medical Arts Bldg.
LaMotte, Geo. A. ..... Colcord Bldg.
Lane, Lloyd C. ..... 311 NW 9th
Langsford, Wm. ..... 323 NE 11th
Langston, Wann ..... Medical Arts Bldg.
Lawson, N. E. ..... 1616 NW 26th
Lee, Clarence E. ..... Hightower Bldg
Lehmer, Elizabeth ..... 132 West 4th

Lemon, Cecil W. ..... Medical Arts Bldg.
Leney, Fannie Lou Brittain ..... 400 West 10th
Lewis, A. R. ..... Hightower Bldg.
Lingenfelter, F. M. ..... 1200 No. Walker
Little, John R. ..... Ramsey Tower
Long, LeRoy ..... Medical Arts Bldg.
Long, LeRoy D. ..... Medical Arts Bldg.
Long, Ross D. ..... 617 West 14th
Long, Wendell ..... Medical Arts Bldg.
Lowry, Dick ..... 1200 No. Walker
Lowry, Tom ..... 1200 No. Walker
Loy, C. F. ..... Perrine Bldg.
Lyon, J. I. ..... Edmond
MacCabe, R. S. ..... Medical Arts Bldg.
Margo, Elias ..... 717 No. Robinson
Martin, Howard C. ..... Medical Arts Bldg.
Martin, J. T. ..... 1200 No. Walker
McBride, E. D. ..... 717 No. Robinson
McGee, J. P. ..... 1200 No. Walker
McDonald, J. C. ..... 301 West 12th
McHenry, D. D. ..... Medical Arts Bldg.
McHenry, L. C. ..... Medical Arts Bldg.
McLauchlin, J. R. ..... Medical Arts Bldg.
McNeill, P. M. ..... Medical Arts Bldg.
Miles, W. H. ..... City Hall Bldg.
Mills, R. C. ..... City Hall Bldg.
Moffitt, J. A. ..... University Hospital
Moor, H. D. ..... 800 East 13th
Moore, C. D. ..... Perrine Bldg.
Moore, Ellis ..... Medical Arts Bldg.
Moorman, Floyd ..... 1200 No. Walker
Moorman, L. J. ..... 1200 No. Walker
Moreledge, Walker ..... 1200 No. Walker
Morgan, C. A. ..... 1st Nat'l Bldg.
Moth, M. V. ..... Amer. Nat'l Bldg.
Murdoch, R. L. ..... Medical Arts Bldg.
Musick, E. R. ..... Medical Arts Bldg.
Musick, V. H. ..... 217½ West Commerce
Mussil, W. M. ..... Medical Arts Bldg.
Myers, Ralph E. ..... 1200 No. Walker
Nagle, Patrick S. ..... Medical Arts Bldg.
Nicholson, B. H. ..... 301 West 12th
Nunnery, E. E. ..... 2531½ So. Robinson
O'Donoghue, D. H. ..... Medical Arts Bldg.
Padberg, J. W. ..... 1800 West 16th
Paulus, D. D. ..... 301 West 12th
Payte, J. I. ..... Medical Arts Bldg.
Peacock, Bernice ..... 2012 No. Penn
Penick, Grider ..... Colcord Bldg.
Phelps, A. S. ..... Medical Arts Bldg.
Pine, John S. ..... Medical Arts Bldg.
Points, Blair ..... Luther
Postelle, J. M. ..... Medical Arts Bldg.
Pounders, C. M. ..... 1200 No. Walker
Price, J. S. ..... 1200 No. Walker
Reck, J. A. ..... Colcord Bldg.
Reed, Emil P. ..... 1200 No. Walker
Reed, Horace ..... 1200 No. Walker
Reed, James Robt. ..... Medical Arts Bldg.
Reichmann, Ruth S. ..... Medical Arts Bldg.
Riely, Lea A. ..... Medical Arts Bldg.
Riley, J. W. ..... 119 West 5th
Robinson, J. H. ..... 301 West 12th
Roddy, J. A. ..... Ramsey Tower
Roland, M. M. ..... Medical Arts Bldg.
Rosenberger, F. E. ..... Perrine Bldg.
Rountree, C. R. ..... 1200 No. Walker
Rucks, W. W., Jr. ..... 301 West 12th
Rucks, W. W. ..... 301 West 12th
Ruhl, A. M. ..... Edmond
Salomon, A. L. ..... 1200 No. Walker
Sands, A. J. ..... Choctaw
Sanger, Fenton A. ..... Key Bldg.
Sanger, F. M. ..... Key Bldg.
Sanger, Winnie M. ..... Key Bldg.
Serwer, Milton ..... 1200 No. Walker
Shelton, J. W. ..... Medical Arts Bldg.
Smith, Chas. A. ..... Medical Arts Bldg.
Smith, Delbert G. ..... Medical Arts Bldg.
Smith, L. L. ..... 2914 So. Robinson
Smith, M. ..... Mid-Continent Life Bldg.
Snow, J. B. ..... 1200 No. Walker
Stanbro, G. E. ..... 301 West 12th
Starry, L. J. ..... 1200 No. Walker
Stilwell, R. J. ..... 1st Nat'l Bldg.
Stone, S. N. ..... Edmond
Stout, M. E. ..... 209 West 13th
Strader, S. Ernest ..... Medical Arts Bldg.
Strother, S. P. ..... 120 NW 23rd
Sullivan, Ernest ..... Hightower Bldg.
Sullivan, Elijah S. ..... Medical Arts Bldg.
Tabor, Geo. R. ..... 1st Nat'l Bldg.
Taylor, Chas. B. ..... Medical Arts Bldg.
Taylor, W. M. ..... 1200 No. Walker
Thompson, W. J. ..... 1200 No. Walker
Todd, H. Coulter ..... Colcord Bldg.
Townsend, C. W. ..... Medical Arts Bldg.
Trice, Spencer T. ..... Hightower Bldg.
Turner, Henry H. ..... 1200 No. Walker
Underwood, E. L. ..... Hales Bldg.
Vahlberg, E. R. ..... Perrine Bldg.
Von Wedel, Curt ..... Colcord Bldg.
Wails, T. G. ..... Medical Arts Bldg.
Wallace, W. J. ..... Medical Arts Bldg.
Warmack, J. C. ..... 200 NW 16th
Watson, R. D. ..... Britton
Weir, M. W. ..... Ramsey Tower
Wells, Eva ..... Medical Arts Bldg.
Wells, W. W. ..... Medical Arts Bldg.
West, W. K. ..... 1200 No. Walker
Westfall, L. M. ..... Medical Arts Bldg.
White, A. W. ..... Medical Arts Bldg.
White, Oscar ..... 1200 No. Walker
White, Phil ..... Perrine Bldg.
Wildman, S. F. ..... Medical Arts Bldg,
Wilkins, Harry ..... Medical Arts Bldg.
Williams, H. M. ..... 315 West 22nd
Williams, Leonard C. ..... 1200 No. Walker
Williamson, W. H. ..... 1st Nat'l Bldg.
Wilson, E. C. ..... 1001 NE 20th
Wilson, K. J. ..... Medical Arts Bldg.
Wolff, J. P. ..... 1200 No. Walker
Wright, Harper ..... 240 West Commerce
Yeakel, E. L. ..... 3420 No. Robinson

OKMULGEE

Alexander, Lin ..... Okmulgee
Alexander, T. C. ..... Okmulgee
Bollinger, I. W. ..... Henryetta
Boswell, H. D. ..... Henryetta
Carloss, T. C. ..... Morris
Carnell, M. D. ..... Okmulgee
Cott, W. M. ..... Okmulgee
Cotteral, J. R. ..... Henryetta
Edwards, J. G. ..... Okmulgee
Glismann, M. B. ..... Okmulgee
Holmes, A. R. ..... Henryetta
Hudson, W. S. ..... Okmulgee
Kilpatrick, G. A. ..... Henryetta
Leslie, S. B. ..... Okmulgee
Matheney, J. C. ..... Okmulgee
McKinney, G. Y. ..... Henryetta
Milroy, J. A. ..... Okmulgee
Ming, C. M. ..... Okmulgee
Mitchener, W. C. ..... Okmulgee
Nelson, J. P. ..... Beggs
Rains, H. L. ..... Okmulgee
Randel, D. M. ..... Okmulgee
Randel, H. O. ..... Okmulgee
Rembert, J. C. ..... Okmulgee
Rodda, E. D. ..... Okmulgee
Robinson, J. C. ..... Henryetta

Sanderson, W. C. — Henryetta
Simpson, N. N. — Henryetta
Stark, W. W. — Okmulgee
Torrance, L. B. — Okmulgee
Vernon, W. C. — Okmulgee
Wallace, V. M. — Morris
Watson, F. S. — Okmulgee
Watson, W. S. — Okmulgee

OSAGE

Aaron, W. H. — Pawhuska
Alexander, E. T. — Barnsdall
*Barrett, R. J. — Pawhuska
Baylor, R. A. — Fairfax
Carmicheal, M. M. — Osage
Caton, C. N. — Wynona
Chase, W. M. — Barnsdall
Colley, T. J. — Hominy
Dozier, B. E. — Shidler
Govan, T. P. — Pawhuska
Guild, C. H. — Shidler
Hemphill, G. K. — Pawhuska
Hemphill, P. H. — Pawhuska
Karasek, M. — Shidler
Keyes, E. C. — Shidler
Lipe, E. N. — Fairfax
Logan, C. K. — Hominy
Ragan, T. A. — Fairfax
Reed, J. M. — Magnolia Springs, Ala.
Rust, M. E. — Pawhuska
Smith, R. O. — Hominy
Sullivan, B. F. — Barnsdall
Summers, H. L. — Marion, Ill.
Walker, G. I. — Hominy
Walker, Roscoe — Pawhuska
Williams, C. W. — Pawhuska
Worten, D. — Pawhuska

OTTAWA

Aisenstadt, E. Albert — Picher
Barry, J. R. — Picher
*Black, W. H. — 3426 E. 9th St., Kansas City, Mo.
Butler, V. V. — Picher
Cannon, R. F. — Miami
Connell, Matt A. — Picher
Colvert, Geo. W. — Miami
Cooter, A. M. — Miami
Craig, J. A. — Miami
Cunningham, P. J. — Afton
DeArman, M. M. — Miami
DeArman, Tom M. — Miami
DeTar, Geo. A. — Miami
Dolan, W. M. — Picher
Evans, F. Green — Afton
Hampton, J. B. — Commerce
Helm, Fred P. — City Bd. of Health, Topeka, Kans.
Hughes, A. R. — Wyandotte
Jacobs, J. C. — Miami
Jacoby, J. S. — Commerce
Lanning, J. M. — Picher
Kitchen, John C.* — Picher
McCallum, Chas. — Quapaw
McNaughton, G. P. — Miami
Meriwether, F. V., U. S. Mar. Hos., New Orleans, La.
Miller, H. K. — Fairland
Moon, J. T. — Miami
Phillips, Isaac — Picher
Pinnell, General — Miami
Prowell, J. W. — Kansas, Okla.
Ralston, B. W. — Commerce
Russell, Richard — Picher
Shelton, B. W. — Miami
Smith, W. B. — Miami
Taylor, G. W. — Picher
Williams, J. P. — Picher
Wormington, F. L. — Miami

*Deceased.

PAWNEE

Beitmen, C. E. — Skedee
Jones, R. E. — Pawnee
McFarland, H. B. — Cleveland
Roberts, J. A. — Cleveland
Robinson, E. T. — Cleveland

PAYNE

Adams, James E. — Cushing
Bassett, C. M. — Cushing
Beach, C. H. — Glencoe
Bergegrun, Katherine — Tehachapi, Calif.
Cleverdon, L. A. — Stillwater
Davidson, W. M. — Cushing
Davis, Benjamin — Cushing
Friedemann, P. W. — Stillwater
Graham, R. N. — Cushing
Harris, E. M. — Cushing
Herrington, D. J. — Cushing
Holbrook, R. W. — Perkins
Leatherock, R. E. — Cushing
Love, T. A. — Cushing
Manning, H. C. — Cushing
Martin, Emmett — Cushing
Martin, John F. — Stillwater
Martin, John W. — Cushing
Mitchell, L. A. — Stillwater
Mitchell, Wade C. — Yale
Perry, Dan L. — Cushing
Richardson, R. M. — Cushing
Roberts, R. E. — Stillwater
Strahan, Eva — Stillwater
Waggoner, Roy E. — Stillwater
Waltrip, J. R. — Yale
Wilhite, L. R. — Perkins

PITTSBURG

Bartheld, F. T. — McAlester
Barton, V. H. — McAlester
Baum, F. J. — McAlester
Bright, J. B. — Kiowa
Bunn, A. D. — Savanna
Bussey, H. N. — 2043 NW 23rd St., Okla. City
Carlock, A. E. — Hartshorne
Crews, J. W. — Atwood
Davis, J. E. — McAlester
Dorrough, Joe — McAlester
George, L. J. — Stuart
Hailey, W. P. — Haileyville
Harris, C. T. — Kiowa
Johnston, J. C. — McAlester
Kies, B. B. — McAlester
Kilpatrick, G. A. — McAlester
Kuyrkendall, L. C. — McAlester
LeWallen, W. P. — Canadian
McCarley, T. H. — McAlester
Miller, F. A. — Hartshorne
Munn, J. A. — McAlester
Norris, T. T. — Krebs
Palmer, Clara L. — McAlester
Park, J. F. — McAlester
Pearce, C. M. — McAlester
Pemberton, R. K. — McAlester
Ramsey, W. G. — Quinton
Rice, O. W. — McAlester
Sames, W. W. — Hartshorne
Shuller, E. H. — McAlester
Wait, W. C. — McAlester
Welch, A. J. — McAlester
Williams, C. O. — McAlester
Willour, L. S. — McAlester
Wilson, H. A. — McAlester
Wilson, McClellan — McAlester

PONTOTOC

Breco, J. G.	Ada
Brydia, Catherine	Ada
Canada, E. A.	Ada
Craig, J. W.	Ada
Cummings, I. L.	Ada
Dawson, B. B.	Ada
Dean, W. F.	Ada
Foerster, Hervey A.	CCC Camp, Davis
Gullatt, E. M.	Ada
Hollaway, T. R.	Stonewall
King, R. F.	Ada
Lewis, E. F.	Ada
Lewis, M. L.	Ada
McKeel, Sam A.	Ada
McNew, M. C.	Ada
Miller, O. H.	Ada
Morey, John B.	Ada
Needham, C. F.	Ada
Ross, S. P.	Ada
Rutledge, J. A.	Ada
Sugg, Alfred R.	Ada
Threlkeld, W. R.	Ada
Webster, M. M.	Ada
Welborn, O. R.	Ada

POTTAWATOMIE

Anderson, R. M.	Shawnee
Applewhite, G. H.	Shawnee
Baker, M. A.	Shawnee
Ball, W. A.	Wanette
Baxter, G. S.	Shawnee
Blount, W. T.	Maud
Brown, R. A.	Prague
Byrum, J. M.	Shawnee
Campbell, H. G.	Shawnee
Carson, F. L.	Shawnee
Cordell, U. S.	McComb
Culbertson, R. R.	Maud
Cullum, J. E.	Earlsboro
Fortson, J. L.	Tecumseh
Gallaher, F. C.	Shawnee
Gallaher, Wm. M.	Shawnee
Gaston, J. I.	Shawnee
Gillick, David W.	Shawnee
Hughes, H. E.	Shawnee
Hughes, J. E.	Shawnee
Isvekov, V. G.	Rusk State Hosp., Rusk, Texas
Kayler, R. C.	McLoud
Mathews, W. F.	Tecumseh
McAdams-Williams, Alpha	Shawnee
McFarling, A. C.	Shawnee
Newlin, Frances P.	Shawnee
Paramore, C. F.	Shawnee
Rice, E. E.	Shawnee
Rowland, T. D.	Shawnee
Royster, J. H.	Wanette
Shivers, E. E.	St. Louis
Stevens, W. S.	315 Federal Bldg., Okla. City
Stooksbury, J. M.	Shawnee
Turner, James H.,	Cumberland Hosp., Brooklyn, N. Y.
Wagner, H. A.	Shawnee
Walker, J. A.	Shawnee
Walker, J. E.	Shawnee

PUSHMATAHA

Ball, Ernest	Sulphur
Connally, D. W.	Nashoba
Huckabay, B. M.	Antlers
Johnson, H. C.	Antlers
Kirkpatrick, J.	Tuskahoma
Lawson, John S.	Clayton
Patterson, E. S.	Antlers

ROGERS

Anderson, F. A.	Claremore
Arnold, A. M.	Claremore
Bassman, Caroline	Claremore
Beson, C. W.	Claremore
Bushyhead, J. C.	Claremore
Collins, B. F.	Claremore
Hays, W. F.	Claremore
Howard, W. A.	Chelsea
Jennings, K. D.	Chelsea
Mason, W. S.	Claremore
Meloy, R. C.	Claremore
Nelson, Ira A.	Care Sac & Fox Agc'y, Toledo, Iowa

SEMINOLE

Bates, C. W.	Seminole
Bates, J. A.	Seminole
Black, W. R.	Seminole
Briggs, T. H.	Wewoka
Chambers, Claude S.	Seminole
Davis, John	Seminole
Deaton, A. N.	Wewoka
Fowler, Arthur Jr	Seminole
Geisen, A. F.	Konawa
Grimes, John P.	Wewoka
Hampton, K. P.	Seminole
Harber, J. N.	Seminole
Harrison, T. F.	Wewoka
Huddleston, W. L.	Konawa
Long, W. J.	Konawa
Martin, W. S.	Wewoka
McAlester, E. R.	Seminole
McGovern, J. D.	Wewoka
Mills, N. W.	Snomac
Mosher, D. D.	Seminole
Pace, L. R.	Seminole
Price, J. T.	Seminole
Reeder, H. M.	Konawa
Reynolds, J. B.	Seminole
Scott, Thomas A.	Bowlegs
Shaw, Dwight B.	Seminole
Shuler, A. C.	Seminole
Stephens, A. B.	Seminole
Stevens, C.	Seminole
Throgmorton, H. B.	Seminole
Turlington, M. M.	Seminole
Van Sandt, Guy B.	Wewoka
Van Sandt, Max	Wewoka
Walker, A. A.	Wewoka
Ware, T. H.	Seminole
Whittle, Charlton C.	Wewoka

SEQUOYAH

Morrow, J. A.	Sallisaw

STEPHENS

Bartley, J. P.	Duncan
Brewer, J. W.	Marlow
Campbell, John D.	Duncan
Carmicheal, J. B.	Duncan
Chumley, Conner P.	Duncan
Garrett, S. S.	County Line
Harrison, C. M.	Comanche
Ivy, Wallace S.	Duncan
Lindley, E. C.	Duncan
Linzy, J. H.	Comanche
Long, Dock	Duncan
McLean, W. Z.	Marlow
McMahan, A. M.	Duncan
Nieweg, J. W.	Duncan
Overton, L. M.	Tecumseh
Patterson, James L.	Duncan
Pruitt, C. C.	Comanche
Richardson, R. W.	Carnegie
Salmon, W. T.	Duncan
Smith, L. P.	Marlow

Talley, Chas. N. ..... Marlow
Thomason, E. B. ..... Marlow
Weedn, Alva J. ..... Duncan
Williamson, S. H. ..... Duncan

TEXAS

Hayes, R. B. ..... Guymon
Lee, Daniel S. ..... Guymon
Risen, Wm. J. ..... Hooker
Smith, Morris ..... Guymon
Thurston, Harry E. ..... Texhoma

TILLMAN

Allen, C. C. ..... Frederick
Arrington, J. E. ..... Frederick
Bacon, O. G. ..... Frederick
Childers, J. E. ..... Tipton
Fisher, Roy ..... Frederick
Reynolds, J. C. ..... Frederick
Spurgeon, T. F. ..... Frederick

TULSA

Allen, V. K. ..... Medical Arts Bldg.
Allison, T. P. ..... Sand Springs
Ament, C. M. ..... 305 Ritz Bldg.
Armstrong, O. C. ..... Medical Arts Bldg.
Atchley, R. Q. ..... Medical Arts Bldg.
Atkins, P. N. ..... Medical Arts Bldg.
Barham, J. H. ..... 314 New Daniels Bldg.
Baum, E. E. ..... Medical Arts Bldg.
Beesley, W. W. ..... Palace Bldg.
Beyer, J. W. ..... Palace Bldg.
Billington, J. J. ..... Medical Arts Bldg.
Black, H. J. ..... Medical Arts Bldg.
Bolton, J. Fred ..... Medical Arts Bldg.
Bradfield, S. J. ..... Medical Arts Bldg.
Bradley, C. E. ..... Medical Arts Bldg.
Branley, B. L. ..... Medical Arts Bldg,
Braswell, J. C. ..... Medical Arts Bldg.
Brogden, J. C. ..... Medical Arts Bldg.
Brookshire, J. E. ..... 313 Ritz Bldg.
Browne, Henry S. ..... Medical Arts Bldg.
Bryan, W. J. ..... Medical Arts Bldg.
Calhoun, C. E. ..... Sand Springs
Calhoun, W. H. ..... 207 Atlas Life Bldg.
Callahan, H. W. ..... Medical Arts Bldg.
Campbell, W. M. ..... 1301½ E. 15th
Carney, A. B. ..... 247 Kennedy Bldg.
Chalmers, J. S. ..... Sand Springs
Childs, D. B. ..... 1226 So. Boston
Childs, H. C. ..... 1226 So. Boston
Childs, J. W. ..... 1226 So. Boston
Clinton, F. S. ..... 823 Wright Bldg.
Clulow, G. H. ..... 410 McBirney Bldg.
Cohenour, E. L. ..... Medical Arts Bldg.
Cook, W. Albert ..... Medical Arts Bldg.
Coulter, T. B. ..... Medical Arts Bldg.
Cronk, F. Y. ..... Medical Arts Bldg.
Daily, R. E. ..... Bixby
Davis, A. H. ..... Medical Arts Bldg.
Davis, B. J. ..... Sand Springs
Davis, T. H. ..... Medical Arts Bldg.
Dean, W. A. ..... Medical Arts Bldg.
Denny, E. Rankin ..... Medical Arts Bldg.
Dieffenbach, J. N. ..... 114 West 3rd
Dillon, C. A. ..... 209 New Daniels Bldg.
Dunlap, Roy ..... Medical Arts Bldg.
Edwards, D. L. ..... Medical Arts Bldg.
Emerson, A. V. ..... Medical Arts Bldg.
Evans, H. J. ..... Medical Arts Bldg.
Farris, H. Lee ..... Medical Arts Bldg.
Flack, F. L. ..... Exchange Bank Bldg.
Flanagan, O. A. ..... Medical Arts Bldg.
Ford, H. W. ..... 417 Okla. Nat'l Gas Bldg.
Fulcher, Joseph ..... Medical Arts Bldg.
Garabedian, G. ..... 1235 So. Boulder
Garrett, D. L. ..... Medical Arts Bldg.
Gilbert, J. B. ..... 307 Roberts Bldg.
Glass, F. A. ..... Medical Arts Bldg.
Goddard, R. K. ..... Skiatook
Goodman, S. ..... Medical Arts Bldg.
Gorrell, J. F. ..... Medical Arts Bldg.
Graham, H. C. ..... 1501 So. Baltimore
Green, Harry ..... Medical Arts Bldg.
Grosshart, Paul ..... Medical Arts Bldg.
Hall, G. H. ..... 420 McBirney Bldg.
Haralson, C. H. ..... Medical Arts Bldg.
Harris, B. ..... Jenks
Hart, M. M. ..... 1232 So. Boulder
Hart, M. O. ..... 1232 So. Boulder
Hartgraves, T. A. ..... Morningside Hosp.
Haskins, T. M. ..... 336 Richards Bldg.
Hays, Laverne ..... Medical Arts Mldg.
Henderson, F. W. ..... Medical Arts Bldg.
Henley, Marvin D. ..... Medical Arts Bldg.
Henry, G. H. ..... Medical Arts Bldg.
Hille, H. L. ..... Collinsville
Hoke, C. C. ..... 207 Philtower Bldg.
Hooper, J. S. ..... Medical Arts Bldg.
Hotz, Carl ..... 604 So. Cincinnati
House, M. A. ..... 606 Beacon Life Bldg.
Huber, W. A. ..... Medical Arts Bldg.
Hudson, D. V. ..... Medical Arts Bldg.
Humphrey, B. H. ..... Sperry
Hutchinson, A. ..... Bixby
Hyatt, E. G. ..... 604 So. Cincinnati
Jackson, L. T. ..... 206½ So. Main
Johnson, C. D. ..... Medical Arts Bldg.
Johnson, R. R. ..... Sand Springs
Jones, W. M. ..... Medical Arts Bldg.
Kemmerly, H. P. ..... Medical Arts Bldg.
Kramer, A. C. ..... Medical Arts Bldg.
Larrabee, W. S. ..... Medical Arts Bldg.
Laws, J. H. ..... Broken Arrow
Lee, J. K. ..... Medical Arts Bldg.
LeMaster, D. W. ..... Medical Arts Bldg.
Lhevine, M. B. ..... Medical Arts Bldg.
Loney, W. R. R. ..... Medical Arts Bldg.
Lowe, J. O. ..... 319 Philcade Bldg.
Lynch, T. T. ..... 319 Philcade Bldg.
MacKenzie, Ian ..... Medical Arts Bldg.
Margolin, Bertha ..... Medical Arts Bldg.
Mayginnis, P. H. ..... 315 Palace Bldg
McAnally, W. F. ..... Box 1756, Pittsburgh, Pa.
McComb, L. A. ..... Medical Arts Bldg.
McDonald, J. E. ..... Medical Arts Bldg.
McGill, R. A. ..... Medical Arts Bldg.
McGuire, H. J. ..... Medical Arts Bldg.
McKellar, M. ..... 604 So. Cincinnati
McLean, E. W. ..... Jenks
McQuaker, Molly ..... 1648 East 13th
Miller, Geo. H. ..... 215 Atlas Life Bldg.
Miner, J. L. ..... 114 East 6th
Mohrman, S. S. ..... 611 Daniel Bldg.
Munding, L. A. ..... Medical Arts Bldg.
Murdock, H. D. ..... Medical Arts Bldg.
Murray, P. G. ..... Medical Arts Bldg.
Murray, S. ..... Medical Arts Bldg.
Myers, F. C. ..... 302 Richards Bldg.
Neal, J. H. ..... 319 West 9th
Nelson, F. L. ..... 614 New Daniels Bldg.
Nelson, F. J. ..... Medical Arts Bldg.
Nelson, I. A. ..... St. John's Hosp.
Nelson, M. O. ..... Medical Arts Bldg.
Nesbitt, E. P. ..... Medical Arts Bldg.
Nesbitt, P. P. ..... Medical Arts Bldg.
Northrup, L. C. ..... 410 McBirney Bldg.
Norman, G. R. ..... 2543 E. Admiral
Osborne, G. O. ..... Medical Arts Bldg.
Pavy, C. A. ..... Medical Arts Bldg.
Peden, J. C. ..... Medical Arts Bldg.
Perry, H. ..... 618 McBirney Bldg.
Perry, John C. ..... 618 McBirney Bldg.
Pigford, A. W. ..... Medical Arts Bldg.

Pigford, R. C.	Medical Arts Bldg.
Presson, L. C.	Medical Arts Bldg.
Price, Harry	Medical Arts Bldg.
Reese, K. C.	Medical Arts Bldg.
Reynolds, J. L.	305 Palace Bldg.
Rhodes, R. E. L.	Medical Arts Bldg.
Richey, S. M.	1304½ West 17th
Roberts, T. R.	2647 East 7th
Rogers, J. W.	Medical Arts Bldg.
Roth, A. W.	Medical Arts Bldg.
Roy, Emile	317 Wright Bldg.
Ruprecht, H.	604 So. Cincinnati
Rushing, F. E.	Medical Arts Bldg.
Russell, G. R.	604 So. Cincinnati
Scott, Phil	Medical Arts Bldg.
Searle, M. J.	Medical Arts Bldg.
Shepard, S. C.	Medical Arts Bldg.
Shepard, R. M.	Medical Arts Bldg.
Sherwood, R. G.	208 Masonic Temple
Showman, W. A.	Medical Arts Bldg.
Simpson, Carl F.	Medical Arts Bldg.
Sipple, M. E.	1411½ So. Troost
Sisler, Wade	807 So. Elgin
Smith, D. O.	604 So. Cincinnati
Smith, N. R.	Medical Arts Bldg.
Smith, R. L.	1226 So. Boston
Smith, R, N.	Medical Arts Bldg.
Smith, R. R.	403 New Daniels Bldg.
Smith, R. V.	Medical Arts Bldg.
Smith, W. O.	323 Philcade Bldg.
Springer, M. P.	604 So. Cincinnati
Stallings, T. W.	114 West 4th
Stanley, Mont	509 New Daniels Bldg.
Stemmons, J. W.	Collinsville
Stewart, H. B.	1516 East 21st
Stevenson, James	Medical Arts Bldg.
Stuart, L. H.	Medical Arts Bldg.
Summers, C. S.	505 New Daniels Bldg.
Trainor, W. J.	Medical Arts Bldg.
Tucker, I. N.	Medical Arts Bldg.
Underwood, D. J.	Medical Arts Bldg.
Underwood, F. L.	Medical Arts Bldg.
Venable, S. C.	720 Mayo Bldg.
Wainright, A. G.	424 McBirney Bldg.
Walker, W. A.	410 So. Cincinnati
Wall, G. A.	Medical Arts Bldg.
Wallace, J. E.	Medical Arts Bldg.
Ward, B. W.	823 Wright Bldg.
White, N. S.	Medical Arts Bldg.
White, P. C.	Medical Arts Bldg.
Wiley, A. Ray	Medical Arts Bldg.
Wilks, F. M.	Collinsville
Witcher, R. B.	Medical Arts Bldg.
Wood, C. J.	Medical Arts Bldg.
Woodson, Fred	Medical Arts Bldg.
Young, C. W.	Cleveland
Zink, H. F.	414 Security Bldg.
Zink, Roy	414 Security Bldg.

WAGONER

Bates, Samuel R.	Wagoner
Leonard, John D.	Wagoner
Plunkett, J. H.	Wagoner
Riddle, H. K.	Coweta

WASHINGTON

Athey, J. V.	Bartlesville
Beechwood, E. E.	Bartlesville
Chamberlin, Elizabeth M.	Bartlesville
Crawford, G. W.	Dewey
Crawford, H. G.	Bartlesville
Crawford, J. E.	Bartlesville
Crawford, T. O.	Dewey
Daly, John F.	Albuquerque, New Mexico
Dorsheimer, G. V.	Dewey
Etter, F. S.	Bartlesville
Green, O. I.	Bartlesville
Hudson, L. D.	Dewey
Kingman, W. H.	Bartlesville
LeBlanc, Wm.	Ochelata
Parks, S. M.	Bartlesville
Rewerts, Fred C.	Bartlesville
Shipman, Wm. H.	Bartlesville
Smith, J. G.	Bartlesville
Somerville, O. S.	Bartlesville
Staver, B. F.	Bartlesville
Torrey, John P.	Bartlesville
Vansant, James P.	Dewey
Weber, Henry C.	Bartlesville
Weber, Sherwell G.	Bartlesville
Wells, Cephas J.	Bartlesville
Wilson, C. C.	Bartlesville

WASHITA

Bennett, D. W.	Sentinel
Bungardt, A. H.	Cordell
Copeland, E. K.	Cordell
Jones, J. Paul	Dill
Livingston, L. G.	Cordell
Neal, A. S.	Cordell
Stoll, A. A.	Foss
Sullivan, C. B.	Colony
Weaver, E. S.	Cordell
Webber, A.	Bessie

WOODS

*Ames, Howard Banks	Alva
Benjegerdes, Theodore D.	Beaver
Bilby, Geo. N.	State Capitol Bldg., Okla. City
Clapper, E. P.	Waynoka
Ensor, D. B.	Hopeton
Grantham, Elizabeth	Alva
Hale, A. E.	Alva
Hall, Ray Lormer	Waynoka
Hammer, John E.	Kiowa, Kans.
Hunt, Isaac S.	Freedom
McGrew, E. A.	Beaver
Rogers, Chas. L.	Carmen
Royer, Chas. A.	Kiowa. Kans.
Simon, Wm. E.	Alva
Stephenson, I. F.	Alva
Stephenson, Walter L.	Alva
Templin, O. E.	Alva

WOODWARD

Barber, J. J.	Laverne
Beam, J. P.	Arnett
Berry, T. M.	Supply
Camp, E. F.	Buffalo
Darwin, D. W.	Woodward
Davis, J. J.	Higgins, Texas
Davis, J. P.	Shattuck
Davis, Stella K.	Shattuck
Dixon, T. E.	Mooreland
Duncan, J. C.	Forgan
Hill, H. K.	Laverne
Irvin, G. E.	Gage
Johnson, H. L.	Supply
Leachman, T. C.	Woodward
Mathews, G. F.	Supply
McClendon, J. W.	Supply
Newman, Floyd S.	Shattuck
Newman, O. C.	Shattuck
Nyland, G. A.	Gate
Patterson, Fred L.	Woodward
Silverthorne, C. R.	Woodward
Tedrowe, C. W.	Woodward
Triplett, T. B.	Mooreland
Walker, H.	Rosston
Watts, D. D.	Laverne
White, L. C.	Adair
Williams, C. E.	Woodward
Wright, H. L.	Supply